

Contains Request for Privileged Treatment

August 31, 2017

The Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

RE: *Nevada Power Co.*
Sierra Pacific Power Co.
PacifiCorp

Docket No. ER17-____-000
Docket No. ER17-____-000
Docket No. ER17-____-000

**Amendments to Market-Based Rate Tariffs Regarding Market-Based Rate
Authority for the Energy Imbalance Market**

via e-Tariff

Dear Secretary Bose:

Pursuant to Section 205 of the Federal Power Act,¹ Part 35 of the regulations of the Federal Energy Regulatory Commission (“Commission”),² Nevada Power Company (“Nevada Power”) and Sierra Pacific Power Company (“Sierra Pacific”) (collectively, the “NV Energy Companies”) and PacifiCorp (together with the NV Energy Companies, the “BHE EIM Participants”)³ hereby propose certain revisions to their respective market-based rate tariffs (“MBR Tariffs”)⁴ to enable their participation in the Energy Imbalance Market (“EIM”) administered by the California Independent System Operator (“CAISO”) using market-based rates, subject to the market mitigation provisions of the CAISO tariff, in lieu of current requirements to participate in the EIM using the cost-based Default Energy Bid (“DEB”) at all times.⁵

¹ 16 U.S.C. § 824d (2012).

² 18 C.F.R. Part 35 (2017).

³ The NV Energy Companies and PacifiCorp are both subsidiaries of Berkshire Hathaway Energy Company (“BHE”).

⁴ PacifiCorp, Nevada Power and Sierra Pacific are each separately tendering this filing along with proposed tariff records in their respective e-Tariff databases. They request that the Commission treat these filings as a single proceeding and consolidate the dockets, if necessary.

⁵ DEBs are cost-based bids calculated by the CAISO which are used to limit market bids submitted by participants when local market power mitigation provisions are triggered. Under these procedures, market bids submitted by participants are limited when congestion occurs on uncompetitive constraints. When bids are mitigated, they are

The Honorable Kimberly D. Bose
August 31, 2017
Page 2

The BHE EIM Participants respectfully request the Commission accept this tariff amendment for filing by November 1, 2017.

I. EXECUTIVE SUMMARY

PacifiCorp was the first utility to announce its intent to join the EIM, filing Open Access Transmission Tariff (“OATT”) revisions to facilitate participation on March 25, 2014.⁶ The CAISO-administered EIM became operational on November 1, 2014, with PacifiCorp as the first participant. On March 6, 2015, the NV Energy Companies filed tariff revisions to facilitate their participation in the EIM.⁷ The NV Energy Companies’ proposed revisions were conditionally accepted, subject to a compliance filing, by Commission order on May 14, 2015,⁸ and the NV Energy Companies commenced participation in the EIM on December 1, 2015. Two additional balancing authorities—Puget Sound Energy and Arizona Public Service Company—commenced participation in the EIM on October 1, 2016. Additional entities have announced their intentions to join the EIM.⁹ Through the second quarter of 2017, the EIM has produced benefits to customers of the CAISO and the participating balancing authority areas (“BAAs”) in excess of \$213 million.¹⁰

Since the NV Energy Companies joined the EIM, the BHE EIM Participants have not been permitted to participate in the EIM at market-based rates. In an order issued on November 19, 2015, the Commission found that the BHE EIM Participants had not adequately supported

capped at the higher of a competitive market price or the unit’s DEB. The CAISO oversees the process of setting DEB levels. Under Section 39.7 of the CAISO tariff, a resource owner can elect from three options to determine the DEB, although resources in the EIM can only use the variable and negotiated rate options. Because of the timing of when DEBs are currently calculated, the CAISO must use publicly available prices for gas purchased in the next day gas market when calculating DEBs for gas-fired units. DEBs include a 10 percent adder. DEBs are also discussed in Section VI.A *infra*.

⁶ See *PacifiCorp*, Filing for Revisions to the OATT to Implement the Energy Imbalance Market, Docket No. ER14-1578 (filed Mar. 25, 2014).

⁷ See *NV Energy*, Amendments to the NV Energy Open Access Transmission Tariff to Participate in the Energy Imbalance Market, Docket No. ER15-1196 (filed Mar. 6, 2015).

⁸ See *Nev. Power Co.*, 151 FERC ¶ 61,131 (2015) (“NV Energy Companies EIM Order”), *order on reh’g and clarification*, 153 FERC ¶ 61,306 (2015).

⁹ Portland General Electric Company is expected to begin participating in the EIM on October 1, 2017. Idaho Power Company and Powerex have announced they intend to begin participating in the EIM in April, 2018. Other entities have also announced their intention to join, including: Los Angeles Department of Water and Power, the Balancing Authority of Northern California (on behalf of its member Sacramento Municipal Utility District), Seattle City Light, and Salt River Project.

¹⁰ See Western EIM Benefits Report for Second Quarter of 2017 at 3, attached hereto as Exhibit 9 (July 31, 2017) (“CAISO Q2 EIM Benefits Report”). The report can also be found at: https://www.westerneim.com/Documents/ISO-EIMBenefitsReportQ2_2017.pdf.

The Honorable Kimberly D. Bose
August 31, 2017
Page 3

their request for market-based rate authority in the EIM.¹¹ Because the NV Energy Companies had not yet commenced their participation, the Commission found a lack of evidence “to demonstrate how often the interties between the CAISO and [the NV Energy Companies] balancing authority areas are constrained, or how often the interties between the PacifiCorp-West and PacifiCorp-East [BAAs] are constrained” and the existence of such potential constraints caused the Commission “to question whether submarkets exist in the [NV Energy Companies] and PacifiCorp-East [BAAs].”¹² The Commission required the BHE EIM Participants to submit compliance filings to propose revised language for their MBR Tariffs to reflect that their EIM bids will be limited at all times to the DEB calculated in accordance with the “variable cost” or “negotiated rate” options provided in the CAISO tariff.¹³

In a subsequent order involving Arizona Public Service Company’s request to use market-based rates in the EIM,¹⁴ the Commission provided additional guidance as to the showing EIM participants would need to make to participate at market-based rates. The Commission clarified that “a potential EIM participant is permitted to demonstrate that there are no frequently binding transmission constraints that would limit imports into its home [BAA] (or the [BAA] where its generation is located) such that the home [BAA] should not be deemed to be an EIM submarket itself, or to be within an EIM submarket.”¹⁵ The Commission further stated that “[h]aving made such a demonstration, there would be no need for a seller to submit a separate market power analysis for its home [BAA].”¹⁶

In this filing, the BHE EIM Participants submit a renewed market-based rate application for their EIM participation that meets the criteria established in the prior Commission orders. This request is supported by an extensive and granular EIM market power study prepared by Charles River Associates (the “CRA Analysis”). The CRA Analysis demonstrates: (1) since the NV Energy Companies’ entry into the EIM, there have been extremely low levels of congestion between the CAISO’s BAA and the BAAs of the BHE EIM Participants such that the BHE EIM

¹¹ *Nev. Power Co., et al.*, 153 FERC ¶ 61,206 (2015) (“BHE EIM MBR Order”), *order on reh’g*, 155 FERC ¶ 61,186 (2016) (“BHE EIM MBR Rehearing Order”).

¹² BHE EIM MBR Order at P 23.

¹³ *Id.* at P 56; *see also* CAISO Tariff at § 39.7.

¹⁴ On April 8, 2016, Arizona Public Service Company submitted a market power analysis filing informing the Commission that Arizona Public Service Company intends to begin participation in the EIM effective October 1, 2016. Arizona Public Service Company does not have market-based rate authorization in its home BAA and submitted revisions to its market-based rate tariff to reflect its participation in the EIM. On August 31, 2016, the Commission issued an order authorizing Arizona Public Service Company to transact in the EIM at market-based rates on the condition that Arizona Public Service Company offer its units that are participating in the EIM at or below each unit’s DEB. *Arizona Public Service Co.*, 156 FERC ¶ 61,148 at P 26 (2016) (“Arizona Public Service Company EIM MBR Order”).

¹⁵ *Id.* at P 28.

¹⁶ *Id.*

The Honorable Kimberly D. Bose
August 31, 2017
Page 4

Participants' BAAs should not be considered submarkets for purposes of their market-based rate determination; and (2) the ability of third-party resources to meet the imbalance needs in the BHE EIM Participants' home BAAs addresses concerns regarding the potential exercise of horizontal market power.

The CRA Analysis is corroborated by the work of the CAISO's independent Department of Market Monitoring ("DMM"). In a recent study, DMM found that "[T]he EIM market in the combined BHE area is structurally competitive during almost all intervals due to the amount of competitive supply that could be transferred into the BHE area from the [CA]ISO."¹⁷ DMM also recently reported to the CAISO EIM Governing Body that, based on their analyses, the cost-based bidding limitations on the BHE EIM Participants are no longer needed.¹⁸

Finally, the presence of market power mitigation procedures in the CAISO tariff—as approved by the Commission for application to the EIM—provide additional assurance that, no matter how small the risk of horizontal market power is, the BHE EIM Participants will be mitigated to their cost-based DEB any time competing supplies cannot reach the BHE EIM Participants' BAAs due to congestion. The BHE EIM Participants and the CAISO have taken actions to remedy the Commission's concerns as to the adequacy of the ability of the CAISO and DMM to mitigate any residual potential exercise of market power. These actions include: (1) activation of the BHE EIM Participants' internal constraints in the CAISO's full network model; and (2) actions by the CAISO to improve the accuracy of its local market power mitigation procedures.¹⁹

The results of the CRA Analysis, combined with the improved market power mitigation program now in place, demonstrate that there is no need to mitigate the BHE EIM Participants' bids to the DEB 100 percent of the time, as is currently the case. In practice, the requirement that the BHE EIM Participants mitigate their bids to the DEB, as required by the Commission's BHE EIM Order, is both contrary to organized market design and presents risks of unrecovered costs in some market intervals.²⁰ Furthermore, this form of mitigation is no longer appropriate, considering the analysis presented herein, which demonstrates that EIM data from the first full year of the NV Energy Companies' participation in the EIM shows no existence of submarkets and that the BHE EIM Participants lack market power. In Section VII below, and in the attached

¹⁷ Report of the CAISO DMM, "Structural Competitiveness of the Energy Imbalance Market: Analysis of Market Power of the Berkshire Hathaway Entities" at 1, attached hereto as Exhibit 3 (June 29, 2017) (the "DMM BHE Report"). The DMM BHE Report can also be found at: <https://www.caiso.com/Documents/AnalysisofMarketPoweroftheBerkshireHathawayEntities.pdf>.

¹⁸ See Department of Market Monitoring Update – EIM Governing Body Meeting, attached hereto as Exhibit 4 (July 13, 2017) ("DMM Presentation"). The presentation can also be found here: <http://www.caiso.com/Documents/DepartmentofMarketMonitoringUpdate-Presentation-Jul2017.pdf>.

¹⁹ See Section VI, *infra*.

²⁰ See Affidavit of Kelcey Brown at PP 9-12, attached hereto as Exhibit 2.

The Honorable Kimberly D. Bose
August 31, 2017
Page 5

Affidavit of Kelcey Brown,²¹ the BHE EIM Participants provide further details on the issues and inefficiencies created in the EIM as a result of the DEB mitigation requirement.

To be clear, the BHE EIM Participants are not asking to charge market-based rates without mitigation. Rather, their bids will be subject to the CAISO tariff-based mitigation instead of the current blanket, seller-specific mitigation.

Based on these updated studies and actions, the BHE EIM Participants ask that the Commission grant the requested amendment to their respective market-based rate authority and MBR Tariffs, effective November 1, 2017, 62 days after filing.

II. COMMUNICATIONS

All communications and service related to this filing should be directed to the persons listed below. The BHE EIM Participants respectfully request waiver of the Commission's regulations so as to allow more than two persons to be placed on the service lists for this filing.

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²¹ See Exhibit 2.

The Honorable Kimberly D. Bose
August 31, 2017
Page 6

III. BACKGROUND

A. Description of the EIM

The EIM enables entities with BAAs outside of the CAISO to take part in the real-time economic energy dispatch portion of the CAISO locational marginal price (“LMP”)-based electricity market, alongside participants within the CAISO market.²² PacifiCorp was the first participant in the EIM in November 2014. Both of PacifiCorp’s BAAs—PacifiCorp-East (“PACE”) and PacifiCorp-West (“PACW”)—were included in the EIM. The EIM later expanded to include the NV Energy Companies’ BAA in December 2015. Puget Sound Energy and Arizona Public Service Company joined the EIM on October 1, 2016. Other entities including Portland General Electric, Idaho Power Company, Seattle City Light, the Balancing Area of Northern California (on behalf of its member Sacramento Municipal Utility District), Salt River Project, Powerex Corp., and the Los Angeles Department of Water and Power are scheduled to join in the future.

While there are a series of activities in the EIM that take place up to a week in advance of real-time operations, the critical time period for EIM activities begins at 75 minutes (T-75) before the beginning of each trading hour (which in turn begins at the top of each hour).²³ At this time, an EIM Participating Resource Scheduling Coordinator²⁴ submits bids to supply imbalance energy, and the EIM Entity Scheduling Coordinator submits an overall Resource Plan.²⁵ Third-party transmission customers must submit their own balanced schedules to the EIM Entity by T-57 to enable them to be incorporated into the EIM Entity’s revised resource

²² *Cal. Indep. Sys. Operator Corp.*, 147 FERC ¶ 61,231 at PP 1-2 (2014) (“CAISO EIM Order”), *order on reh’g, clarification and compliance*, 149 FERC ¶ 61,058 (2014) (“CAISO EIM Rehearing Order”).

²³ When utilities join the EIM, the transmission provider function in its BAA role acts as the “EIM Entity.” The EIM Entity is responsible for all the transmission-related functions of the EIM, and acts through the “EIM Entity Scheduling Coordinator” in a critical coordination role with the CAISO, including compiling and submitting the “base schedules” (planned resources and loads). The power generation and sales function of the utility (and other third-party resources in the BAA) participate in the EIM as “EIM Participating Resources.” A vertically-integrated utility will have both an EIM Entity function (transmission) as well as an “EIM Participating Resource” function. *See* CAISO Tariff, Appendix A.

²⁴ The “EIM Participating Resource Scheduling Coordinator” is the entity that is responsible for interfacing with the EIM Entity and the CAISO on behalf of each EIM Participating Resource (the generator). *See* CAISO Tariff, Appendix A.

²⁵ As specified in Section 29.34(e)(3) of the CAISO Tariff, and as defined in Appendix A of the CAISO Tariff, a Resource Plan includes: (1) the Base Schedules of the EIM Entities and EIM Participating Resources; (2) energy bid ranges (applicable to EIM Participating Resources only); (3) upward Available Balancing Capacity; (4) downward Available Balancing Capacity; (5) reserves to meet North American Electric Reliability Corporation (“NERC”)/Western Electricity Coordinating Council (“WECC”) Contingency Reserves Requirements; and (6) if the EIM Entity Scheduling Coordinator is not relying on the CAISO’s demand forecast, a demand forecast.

The Honorable Kimberly D. Bose
August 31, 2017
Page 7

plan submitted to the CAISO at T-55.²⁶ The EIM Entity has until T-40 to make any needed further revisions.²⁷

The CAISO uses its real-time market to dispatch imbalance energy to meet the difference between real-time demand and generation scheduled in the CAISO's day-ahead market and the EIM Entities' balanced base schedules.²⁸ The CAISO's real-time market dispatches this imbalance energy on a fifteen-minute and five-minute basis through its fifteen-minute unit commitment and five-minute dispatch market functions, respectively. These two components of the EIM are referred to as the Fifteen-Minute Market ("FMM") and the Five-Minute Market or Real-Time Dispatch ("RTD"). Each run of the CAISO's real-time market simultaneously determines the necessary or output of dispatchable resources to meet forecasted net load over multiple intervals, not just in the next "financially binding" interval. The subsequent intervals are "advisory" intervals. The CAISO real-time unit commitment process that is used for the FMM looks ahead up to seven 15-minute intervals. The real-time dispatch looks ahead up to 14, five-minute intervals.²⁹ "Dispatch Instructions" produced by the unit commitment and five-minute dispatch processes are communicated to the resource.³⁰

²⁶ See, e.g., NV Energy Companies' OATT, Attachment P at § 4.2.4.5.2.

²⁷ See CAISO Tariff § 29.34(f)(1)(C).

²⁸ In other words, imbalance energy for the CAISO is based on the difference between day-ahead and real-time actual generation and demand; whereas, imbalances for EIM Entities are based on the differences between the base schedule and actual generation and demand.

²⁹ See CAISO Tariff at Section 34.5.1, Real-Time Economic Dispatch, which states:

[Real-Time Economic Dispatch ("RTED")] mode of operation for RTD normally runs every five (5) minutes starting at approximately 7.5 minutes prior to the start of the next Dispatch Interval and produces binding Dispatch Instructions for Energy for the next Dispatch Interval and advisory Dispatch Instructions for multiple future Dispatch Intervals through at least the next Trading Hour. After being reviewed by the CAISO Operator, only binding Dispatch Instructions are communicated for the next Dispatch Interval in accordance with Section 6.3. RTED will produce a Dispatch Interval LMP for each PNode for the Dispatch Interval associated with the binding Dispatch Instructions. The RTED Dispatch target is the middle of the interval between five (5) minutes boundary points. For Variable Energy Resources that forecast with 5 minute granularity, the CAISO will use the 5-minute forecast available prior to the start of the RTD optimization to determine the instructed Energy of the resource. RTD will return the 5-minute forecast value as the instructed Energy for the binding RTD interval provided that the Variable Energy Resource is optimized through the RTED.

³⁰ A real-time "Dispatch Instruction" is an instruction by the CAISO for an action with respect to specific equipment, or to a resource for increasing or decreasing its energy supply to a specified Dispatch Operating Point pertaining to Real-Time operations. The "Dispatch Operating Point" is the expected operating point of a resource that has received a CAISO Dispatch Instruction. The resource is expected to operate at the Dispatch Operating Point after completing the Dispatch Instruction, taking into account any relevant ramp rate and time delays. The "Dispatch Operating Target" is the optimal dispatch of a resource, as calculated by the CAISO, based on telemetry and representing a single point on the Dispatch Operating Point trajectory in the middle of the five minute dispatch interval. See CAISO Tariff, Appendix A.

The Honorable Kimberly D. Bose
August 31, 2017
Page 8

While the EIM is a “voluntary” market,³¹ the EIM design includes important requirements to ensure that it is a true imbalance market and that there is no improper “leaning” on the resources of other BAAs.³² These attributes include:

- The EIM Entity must submit schedules balanced to the CAISO forecast;
- The EIM Entity balanced schedules, that deviate from the CAISO forecast, are subject to over and under forecast penalties;
- The EIM Entity must meet the CAISO’s flexible ramp requirement;
- The EIM Entity must meet its WECC reserve requirements;
- The EIM Entity must meet any reserve sharing requirements; and
- The EIM Entity must also meet its NERC and WECC responsibilities as a balancing authority by carrying sufficient reserves.

In addition, actions of the EIM Entities and EIM Participating Resources are subject to review by the DMM and, of course, their respective state commissions, to ensure reliable, least-cost service to customers through appropriate participation in the EIM.

B. Description of the BHE EIM Participants

1. The NV Energy Companies

The NV Energy Companies are indirect, wholly owned subsidiaries of BHE.³³ Together, Nevada Power and Sierra Pacific have a service territory of over 45,000 square miles in Nevada.

Nevada Power is a vertically-integrated public utility offering retail and wholesale electric and transmission service in southern Nevada that is regulated by the Public Utilities Commission of Nevada (“PUCN”) and the Commission. Nevada Power’s retail service territory is located in southern Nevada, and includes the cities of Las Vegas, North Las Vegas, and Henderson. Nevada Power serves about 910,000 retail residential, commercial, and industrial customers.

Nevada Power operates the NV Energy Companies’ BAA, a consolidated BAA in Nevada consisting of what were formerly separate Nevada Power and Sierra Pacific BAAs.³⁴ Nevada Power operates both its own transmission facilities as well as those owned by Sierra Pacific and the jointly owned 235-mile, 500 kV One Nevada Line that interconnects the Nevada

³¹ BHE EIM MBR Order at P 47.

³² This issue is discussed further in the Affidavit of Kelcey Brown at PP 5-6, attached hereto as Exhibit 2.

³³ See *Silver Merger Sub, Inc. et al.*, 145 FERC ¶ 61,261 (2013) (order authorizing merger of NV Energy, Inc. and a BHE subsidiary).

³⁴ On January 1, 2014, the Nevada Power and Sierra Pacific BAAs were consolidated into a single BAA.

The Honorable Kimberly D. Bose
August 31, 2017
Page 9

Power and Sierra Pacific systems. Nevada Power provides open access transmission service on both systems under the terms of the Nevada Power Company and Sierra Pacific OATT.

Nevada Power and Sierra Pacific jointly dispatch their generating resources according to the terms of a Joint Dispatch Agreement (“JDA”) on file with the Commission.³⁵ Under the JDA, the load of Nevada Power and Sierra Pacific are served by the combined generating fleets of both companies, dispatched on a least cost basis to benefit both companies.

Sierra Pacific is a vertically-integrated public utility that serves retail and wholesale customers throughout northern Nevada that is regulated by the PUCN and the Commission. Sierra Pacific’s retail service territory covers portions of western, central, and northeastern Nevada, and includes the cities of Reno, Sparks, Carson City, and Elko. Sierra Pacific serves about 340,000 retail residential, commercial, and industrial customers. Additionally, Sierra Pacific provides retail natural gas service to approximately 162,000 customers in an 800-square mile service territory in Nevada’s Reno/Sparks area.

The Commission has granted the NV Energy Companies authorization to sell energy, capacity, and ancillary services at market-based rates, with the exception of the NV Energy Companies, PACE, PACW, Idaho Power Company, and NorthWestern Corporation BAA markets.³⁶

2. PacifiCorp

PacifiCorp is an Oregon corporation. PacifiCorp is a vertically-integrated public utility primarily engaged in providing retail electric service to approximately 1.8 million residential, commercial, industrial, and other customers in portions of the following states: California, Idaho, Oregon, Utah, Washington, and Wyoming. PacifiCorp provides electric transmission service in nine Western states, and owns or has interests in approximately 16,500 miles of transmission lines and 71 thermal, hydroelectric, wind-powered generating, and geothermal facilities.

PacifiCorp provides open access transmission service pursuant to its OATT, which is on file with the Commission. PacifiCorp operates two BAAs, PACE and PACW. PACE principally includes PacifiCorp’s load and generating capacity in the states of Idaho, Utah, and Wyoming. PACW principally includes PacifiCorp’s load and generating capacity in the states of Washington, Oregon, and California.

³⁵ The JDA is on file with the Commission as Nevada Power Rate Schedule No. 139. *See Nev. Power Co.*, Docket No. ER15-2310-000, Delegated Letter Order (Sept. 3, 2015) (accepting changes to the JDA).

³⁶ *See Nev. Power Co., et al.*, 155 FERC ¶ 61,249 at P 2 (2016).

The Honorable Kimberly D. Bose
August 31, 2017
Page 10

The Commission has granted PacifiCorp authorization to sell energy, capacity, and ancillary services at market-based rates in all BAAs, with the exception of the NV Energy Companies, PACE, PACW, Idaho Power Company, and NorthWestern Corporation BAAs.³⁷

C. The BHE EIM Participants' Prior EIM Market-Based Rate Filing

On March 6, 2015, the NV Energy Companies filed with the Commission in Docket Nos. ER15-1196-000 and ER15-1196-001 proposed amendments to the NV Energy Companies' OATT to facilitate participation in the EIM ("OATT Revision Filing").³⁸ In the OATT Revision Filing, the NV Energy Companies stated their intention to file with the Commission additional tariff revisions to amend the NV Energy Companies' MBR Tariffs to seek market-based rate authority within the NV Energy Companies' BAA for purposes of EIM participation.³⁹

On May 14, 2015, the Commission issued an order conditionally accepting the NV Energy Companies' proposed OATT tariff revisions to participate in the EIM.⁴⁰ In the order, the Commission noted that the NV Energy Companies currently lack market-based rate authority in the NV Energy Companies' BAA, and directed the NV Energy Companies to submit a market power analysis to demonstrate that they do not have market power in the expanded EIM market, including the NV Energy Companies' BAA, prior to commencing their participation in the EIM.⁴¹ The Commission also indicated that, "[t]o the extent that PacifiCorp wants to make sales in the EIM at market-based rates once the [NV Energy Companies'] BAA becomes part of the EIM," it too will need to demonstrate that it does not have market power in the EIM market.⁴²

On July 27, 2015, the BHE EIM Participants submitted a market power study of the planned 4-BAA EIM footprint and revisions to their MBR Tariffs.⁴³ The study examined the EIM after the integration of the NV Energy Companies' BAA area and accounted for both PacifiCorp's and the NV Energy Companies' EIM capacity. The BHE EIM Participants contended that their study showed they do not have market power in the 4-BAA EIM, consistent with the Commission's analysis for market power in organized markets.⁴⁴ Further, the BHE EIM

³⁷ *Id.*

³⁸ *See NV Energy*, Amendments to the NV Energy Open Access Transmission Tariff to Participate in the Energy Imbalance Market, Docket No. ER15-1196 (filed March 6, 2015).

³⁹ *Id.* at 54.

⁴⁰ *See NV Energy Companies EIM Order.*

⁴¹ *Id.* at P 201.

⁴² *Id.* at P 201, n.384.

⁴³ *Nev. Power Co., et al.*, Market Power Analysis and Amendments to Market-Based Rate Tariffs in Anticipation of the NV Energy Participation in the Energy Imbalance Market, Docket Nos. ER15-2281, *et al.* (filed July 27, 2015).

⁴⁴ *Id.* at 10.

The Honorable Kimberly D. Bose
August 31, 2017
Page 11

Participants stated that the CAISO's market monitoring and mitigation should have alleviated any concerns as to the existence of market power.⁴⁵

On November 19, 2015, the Commission issued an order "conditionally accepting" the BHE EIM Participants' filing, but requiring them to participate in the EIM not at market-based rates, but at their cost-based DEBs.⁴⁶ The Commission found that the BHE EIM Participants' market power analyses failed to demonstrate a lack of market power in the expanded EIM.⁴⁷ The Commission also outlined concerns regarding the ability of the CAISO's local market power mitigation to mitigate the BHE EIM Participants' market power in the expanded EIM and, therefore, imposed two conditions on the BHE EIM Participants' participation in the EIM at market-based rates: (1) that the BHE EIM Participants offer their units that are participating in the EIM at or below each unit's DEB;⁴⁸ and (2) that the BHE EIM Participants facilitate the CAISO's enforcement of all internal transmission constraints in the PacifiCorp and the NV Energy Companies' BAAs.⁴⁹

D. EIM Market-Based Rate Applications by Arizona Public Service Company and Puget Sound Energy

On April 7, 2016, Arizona Public Service Company submitted a market power analysis to support its participation in the EIM at market-based rates.⁵⁰ On August 31, 2016, the Commission issued an order finding that Arizona Public Service Company failed to establish that it lacked market power in the EIM.⁵¹ The order therefore instructed Arizona Public Service Company, like the BHE EIM Participants, to transact in the EIM not at market-based rates, but at cost-based DEBs. With respect to the analysis needed to support a market-based rate application by an EIM participant, the Commission noted that, "after a [BAA] has been in the EIM for a year or longer, a participant may be able to perform an *ex post* analysis as to whether there have been frequently-binding transmission constraints that would limit potential imports into its [BAA] . . . as well as whether there has been price separation."⁵² Based on this evidence, the Commission could "remove any conditions on the participant's participation in the EIM at market-based rates, such as the condition that the participant bid its units in at or below its [DEB]."⁵³

⁴⁵ *Id.* at 12-18.

⁴⁶ BHE EIM MBR Order.

⁴⁷ *Id.* at P 24.

⁴⁸ DEBs are further explained in n.5, *supra*.

⁴⁹ BHE EIM MBR Order at P 51; *see also* BHE EIM MBR Rehearing Order.

⁵⁰ *See Ariz. Pub. Serv. Co.*, Market-Based Rate Tariff Revisions, Docket Nos. ER16-1363, *et al.* (filed Apr. 7, 2016).

⁵¹ Arizona Public Service Company EIM MBR Order.

⁵² *Id.* at P 29.

⁵³ *Id.*

The Honorable Kimberly D. Bose
August 31, 2017
Page 12

On March 9, 2016, as amended on July 27, 2016, Puget Sound Energy submitted a notice of change of status to facilitate its participation in the EIM.⁵⁴ Puget Sound Energy supported its request with data comparing the expected transmission import capacity into its home BAA with the expected demand for imbalance energy. The analysis demonstrated that the expected demand would exceed the import capacity in only 0.05 percent of the 15 minute-intervals over the December 2013 to November 2014 study period. The Commission accepted Puget Sound Energy's analysis and request to participate in the EIM using market-based rates, concluding that this data showed Puget Sound Energy's BAA was not a submarket and that Puget Sound Energy passed the pivotal supplier and wholesale market share screens in the EIM as a whole.⁵⁵

IV. THE BHE EIM PARTICIPANTS LACK HORIZONTAL MARKET POWER IN THE EIM

The BHE EIM Participants lack horizontal market power in the EIM and should be permitted to participate in the EIM at market-based rates. In Section IV.A, the BHE EIM Participants demonstrate that the NV Energy Companies, PACE, and PACW BAAs are not submarkets in the EIM. Accordingly, the relevant geographic market for purposes of this analysis is the 4-BAA EIM footprint that existed during the test year. In Section IV.B, the BHE EIM Participants demonstrate that they pass the Commission's horizontal market power screens in the EIM, and therefore, meet the standards for market-based rate authority in the EIM.

In Order No. 697, the Commission emphasized that the relevant geographic market for organized markets is the organized market itself, unless there is evidence that a submarket exists. Specifically, in Order No. 697, the Commission stated:

[The] Commission will continue to use a seller's [BAA] or the RTO/ISO market, as applicable, as the default relevant geographic market. However, where the Commission has made a specific finding that there is a submarket within an RTO/ISO, that submarket becomes the default relevant geographic market for sellers located within the submarket for purposes of the market-based rate analysis.⁵⁶

⁵⁴ See *Puget Sound Energy, Inc., et al.*, Notice of Non-Material Change in Status, Docket Nos. ER10-2374-010, *et al.* (filed March 9, 2016) (containing an analysis to demonstrate that Puget Sound Energy passed the indicative screens and, therefore, should be permitted to transact at market-based rates within the EIM).

⁵⁵ *Puget Sound Energy, Inc.*, 156 FERC ¶ 61,242 at P 18 (2016).

⁵⁶ See *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, Order No. 697, FERC Stats. & Regs., ¶ 31,252 at P 231, *clarified*, 121 FERC ¶ 61,260 (2007) ("Order No. 697"), *order on reh'g*, Order No. 697-A, FERC Stats. & Regs., ¶ 31,268, *clarified*, 124 FERC ¶ 61,055 ("Order No. 697-A"), *order on reh'g*, Order No. 697-B, FERC Stats. & Regs., ¶ 31,285 (2008), *order on reh'g*, Order No. 697-D, FERC Stats. & Regs., ¶ 31,305 (2010).

The Honorable Kimberly D. Bose
August 31, 2017
Page 13

The Commission also noted in Order No. 697 that it would, “[C]ontinue to require sellers located in and a member of an RTO/ISO to consider, as part of the relevant market, only the relevant RTO/ISO market and not first-tier markets to the RTO/ISO.”⁵⁷ The Commission affirmed this policy in Order Nos. 697-A⁵⁸ and 816.⁵⁹

The attached market power analysis performed by Dr. David Hunger and Mr. Edo Macan of Charles River Associates (“CRA”) first examines whether any submarkets exist that warrant being separately studied for purposes of the market power analysis. Dr. Hunger and Mr. Macan conclude, with data corroborated by the CAISO’s DMM, that price separation data and congestion data conclusively demonstrate that the NV Energy Companies, PACW, and PACE BAAs are not submarkets that need to be separately studied. Dr. Hunger and Mr. Macan then conducted a market power analysis using the 4-BAA EIM footprint of the CAISO and the BHE EIM Participants’ BAAs, and conclude that the BHE EIM Participants pass both the pivotal supplier and market share screens. These results support permitting the BHE EIM Participants to participate in the EIM at market-based rates.

A. The BHE BAAs Are Not Submarkets Within the EIM

As noted above, the NV Energy Companies EIM Order directed PacifiCorp to develop a market power analysis that “take[s] into account whether the existence of frequently binding transmission constraints into [PACE] that limit the transfer capability into that BAA create a separate relevant geographic submarket which must also be studied.”⁶⁰ In the BHE EIM MBR Order, the Commission found, based on the BHE EIM Participants’ first market power study, that it was “not convinced that the EIM does not include submarkets, such as [PACE].”⁶¹ The Commission recognized that it may be difficult to make the requisite demonstration without actual experience of participating in the EIM, when it noted that:

However, after a [BAA] has been in the EIM for a year or longer, a participant may be able to perform an *ex post* analysis as to whether there have been frequently-binding transmission constraints that would limit potential imports into

⁵⁷ Order No. 697 at P 231, n.215.

⁵⁸ Order No. 697-A at P 87 (“Where the Commission has made a specific finding that there is a submarket within an RTO/ISO or within any other market, the market-based rate analysis (both the indicative screens and the DPT) should consider that submarket as the default relevant geographic market.”).

⁵⁹ See *Refinements to Policies & Procedures for Mkt.-Based Rates for Wholesale Sales of Elec. Energy, Capacity & Ancillary Servs. by Pub. Utils.*, Order No. 816, 153 FERC ¶ 61,065 at P 5, n.9 (2015) (“Order No. 816”), *order on reh’g*, Order No. 816-A, 155 FERC ¶ 61,188 (2016).

⁶⁰ NV Energy Companies EIM Order at P 201, n.384.

⁶¹ BHE EIM MBR Order at P 19.

The Honorable Kimberly D. Bose
August 31, 2017
Page 14

its [BAA] (or the [BAA] where its generation is located), as well as whether there has been price separation.⁶²

The CRA Analysis evaluates transmission constraints between the CAISO BAA and each of the BHE EIM Participants' three BAAs, and concludes that congestion is so infrequent that there is no basis to conclude that any of those three BAAs are submarkets that warrant separate analysis. The NV Energy Companies joined the EIM in December 2015. The test year for the CRA Analysis is therefore December 2015 through November 2016, as specified by the Commission in the Arizona Public Service Company EIM MBR Order.⁶³

In evaluating transfers between the CAISO and the BHE EIM Participants' BAAs, the Commission also instructed the BHE EIM Participants to address any "scheduling limitations" that would limit such transfers.⁶⁴ As noted below, both the CRA Analysis and the DMM's analysis show that actual transfer capability was significant in relation to demand during the study period. Therefore, no scheduling limitations limit the transfers observed during the study period.

1. The Commission's Standards for Identifying Submarkets

In the context of organized markets like the EIM, the Commission primarily looks at the existence of binding transmission constraints that would limit the ability of supply to reach load behind the constraint (also known as a load pocket). The Commission looks at congestion and pricing data to determine when a transmission constraint is binding to such a degree that the load pocket needs to be studied as a separate market to determine whether suppliers behind the constraint might be able to exercise market power.⁶⁵

The Commission has found that constraints need to be frequently binding in order to create a submarket, and that more than one interface may need to be constrained in order for a submarket to exist.⁶⁶ Specific to the EIM, the Commission has provided that:

⁶² Arizona Public Service Company EIM MBR Order at P 29.

⁶³ *Id.*

⁶⁴ BHE EIM MBR Rehearing Order at P 21.

⁶⁵ *First Energy Corp., et al.*, 133 FERC ¶ 61,222 at P 52 (2010); *Exelon Corp., et al.*, 138 FERC ¶ 61,167 at P 32 (2012).

⁶⁶ Order No. 697-A at P 94 ("[All] of the submarkets that the Commission has identified result from frequently binding transmission constraints during historical seasonal peaks examined; these particular constraints have not tended to be temporary in nature. Evidence with respect to whether a transmission constraint is temporary or is frequently binding will be considered in determining whether a submarket exists."); *see also Wisc. Energy, et al.*, 151 FERC ¶ 61,015 at P 36 (2015) (noting that a single constrained interface is not enough – multiple constraints may need to bind before an area is cutoff and a submarket established and stating, "[W]hen there was a constraint on a single interface, the other interfaces did not suffer simultaneous constraints."); *see also AEP Power Mktg., et al.*, 124 FERC ¶ 61,274 at P 25 (2008) ("While a lack of price correlation can indicate that a different market may exist,

The Honorable Kimberly D. Bose
August 31, 2017
Page 15

[A] potential EIM participant is permitted to demonstrate that there are no frequently binding transmission constraints that would limit imports into its home [BAA] (or the [BAA] where its generation is located) such that the home balancing [BAA] should not be deemed to be an EIM submarket itself, or to be within an EIM submarket. Having made such a demonstration, there would be no need for a seller to submit a separate market power analysis for its home [BAA].⁶⁷

2. Price and Congestion Data Prove the Absence of Submarkets

To measure congestion and the associated price separation between the CAISO and the other EIM BAAs, CRA analyzed the power balance constraint shadow price data⁶⁸ in order to determine whether any congestion existed between the CAISO BAA and any of the other three EIM BAAs. CRA examined each of the two components of the EIM: the FMM and the RTD.

For a particular EIM BAA, a positive adjusted power balance constraint shadow price indicates that it is more expensive to serve load in the EIM BAA than in the CAISO BAA. A negative adjusted power balance constraint shadow price indicates that it is more expensive to serve load in the CAISO BAA than in the EIM BAA. Thus, a positive adjusted power balance constraint shadow price for an interval and for a particular EIM BAA indicates that there was congestion on the lines from the CAISO BAA to the EIM BAA and, thus, price separation with higher prices in the EIM BAA than in the CAISO BAA.

In the case of the PACE BAA, which is not directly interconnected to the CAISO BAA, CRA compared the power balance constraint shadow price in the NV Energy Companies' BAA and in the PACE BAA. As both are specified with the CAISO BAA as the reference point, CRA directly subtracted the power balance constraint shadow price in the PACE BAA from the power balance constraint shadow price in the NV Energy Companies' BAA.⁶⁹ A difference greater

it can also be problematic to use a lack of price correlation between points as the basis for a finding that they are submarkets. The lack of a high correlation between prices could be used to support an argument for a submarket in a case where there are persistent binding transmission constraints, but as discussed above, that is not the case here because the binding constraints in PJM are west to east, rather than east to west.”).

⁶⁷ Arizona Public Service Company EIM MBR Order at P 28.

⁶⁸ As discussed in the CRA Analysis, the shadow price represents the difference between the market price of that EIM BAA and the market price in the CAISO. It is a publicly-available price on the CAISO Open Access Same-Time Information System site, and is the same data the CAISO DMM uses for its congestion analysis. If the power balance constraint shadow price is zero, then there is no congestion between the two relevant BAAs and their prices are equal. If the shadow price is negative, then the congestion is into the CAISO and the price in the outside BAA is higher than in the CAISO. In contrast, if the shadow price is positive, then the congestion is out of the CAISO and the price in the outside BAA is higher than in the CAISO. See CRA Analysis at 4-5, attached hereto as Exhibit 1.

⁶⁹ With the introduction of the EIM, the CAISO developed a mechanism to reflect greenhouse gas (“GHG”) compliance costs within the LMPs. Inside the CAISO BAA, the energy price includes GHG compliance costs of

The Honorable Kimberly D. Bose
August 31, 2017
Page 16

than the threshold value of \$0.01 for an interval indicates that there was congestion on the lines from the NV Energy Companies' BAA to the PACE BAA and, thus, price separation with higher prices in the PACE BAA than in the NV Energy Companies' BAA.

Based on the analysis, CRA found that there are no frequently binding constraints that would prevent the flow of power from the CAISO BAA to any of the BHE EIM Participants' BAAs. This conclusion holds true for both the FMM and the RTD. Table 1 presents the results of the analysis. In the FMM, the paths considered are congested between 0.7 percent and 2.4 percent of the time, depending on the BAA. In the RTD, they are congested anywhere from 0.3 percent to 6.2 percent of the time, depending on the BAA.

Table 1: Results of the Constraint and Submarket Analysis with a \$0.01 Threshold

	FMM			RTD		
	CAISO price separation		NEVP price separation	CAISO price separation		NEVP price separation
BAA	NEVP	PACW	PACE	NEVP	PACW	PACE
Intervals with positive shadow prices	759	839	258	1922	6504	309
Total intervals	35136	35136	35136	105408	105408	105408
% intervals with positive price separation	2.2%	2.4%	0.7%	1.8%	6.2%	0.3%

The price separation results in Table 1 very likely overstate the presence of congestion. As explained by Dr. Hunger and Mr. Macan, low magnitude price separation can also be caused by transmission losses or any of a host of other operational factors.⁷⁰ Therefore, to attempt to eliminate false positives and get a better sense of when price separation truly signals the presence of congestion, they increased by five dollars the threshold that would indicate positive price separation. Those results are summarized in Table 2 below. This stress test of the Table 1 results reveals that true congestion is likely only present in less than 2.4 percent of all studied market intervals.

generation. Outside the CAISO BAA, if the load was met with generation outside of the CAISO, the energy price does not include GHG compliance costs. The CRA Analysis explains how GHG costs were taken into account when conducting this price separation and congestion analysis. *See* CRA Analysis at 14-15, attached hereto as Exhibit 1.

⁷⁰ *Id.* at 16.

Table 2: Results of the Constraint and Submarket Analysis with a \$5 Threshold

	FMM			RTD		
	CAISO price separation		NEVP price separation	CAISO price separation		NEVP price separation
BAA	NEVP	PACW	PACE	NEVP	PACW	PACE
Intervals with positive shadow prices	534	437	144	1512	2491	105
Total intervals	35136	35136	35136	105408	105408	105408
% intervals with positive price separation	1.5%	1.2%	0.4%	1.4%	2.4%	0.1%

These results are consistent with Commission precedent regarding when transmission constraints are too infrequent to find a submarket.⁷¹

Where the Commission has found submarkets, the constraints tend to be well established and frequently binding. Infrequent constraints do not indicate a submarket. For example, in *PPL Corp., et al.*, the Commission rejected the PJM Market Monitor’s call to treat the Central East region and West Interface of PJM as submarkets.⁷² In that case, the Central East region was constrained in only 288 total hours, or 2.2 percent of all hours and 3 percent of peak hours.⁷³ The West Interface was constrained in 4.3 percent of peak hours, and 3.4 percent of the total hours.⁷⁴ By contrast, well-established submarkets bind far more frequently. For example, in *Exelon*, the AP South interface was found to be binding in the day-ahead market 53% of the hours and 17% of real-time hours, and the 5005/5004 interface was found binding 19% of day-ahead hours and six percent of real-time hours.⁷⁵

Thus, the results of the CRA Analysis are consistent with the Commission’s precedent, which holds that binding constraints in less than 3 percent of the hours studied are insufficient to establish a submarket, and therefore, the BHE EIM Participants’ three BAAs are not submarkets within the EIM.

⁷¹ See *supra* n.66.

⁷² *PPL Corp., et al.*, 149 FERC ¶ 61,260 at PP 103-04 (2014).

⁷³ *Id.* at P 103.

⁷⁴ *Id.* at P 104 (“[We] are not persuaded to find that the West Interface rises to the level of a separate submarket at this time, since the frequency of constraints is still relatively low. . .”).

⁷⁵ *Exelon Corp. et al.*, 138 FERC ¶ 61,167 at P 26 (2012). See also *Wisvest-Connecticut*, 96 FERC ¶ 61,101 at n.19 (2001) (finding Connecticut and Southwest Connecticut to be submarkets because “...transmission uplift was paid in 67% of the hours in SWCT and in 39% of the hours in CT.”).

The Honorable Kimberly D. Bose
August 31, 2017
Page 18

3. Even When Constraints Bind, the CAISO Market Power Mitigation Procedures Would Mitigate Bids In the Same Manner as They Are Mitigated Today

Historically, when the Commission considers whether to separately analyze submarkets for market power purposes, it does so to determine whether any particular form of mitigation is required to address market power behind the constraint.⁷⁶ In this case, the Commission has both a lack of congestion *and* sufficient market power mitigation measures in place. Specifically, the Commission can rely on the fact that congestion is so infrequent that no submarket exists, but even if congestion does materialize, the CAISO's automated procedures will mitigate bids from units behind the constraint. As described by the DMM:

During the relatively small number of intervals when BHE may be pivotal and competitive supply from the [CA]ISO into any of the BHE BAAs may be limited by congestion, this potential structural market power is mitigated by the [CA]ISO's real-time bid mitigation procedures. When these procedures are triggered by congestion in the real-time market, bids of *all supply within a BAA that is separated from the [CA]ISO are automatically subject to cost-based bid limits*.⁷⁷

On the one hand, the existence of these mitigation procedures renders moot the question of how often the inter-BAA constraints bind, and whether or not there is a submarket. However, the Commission previously found the mitigation had not been shown to effectively address locational market power issues between the EIM BAAs.⁷⁸ As discussed in detail in Section VI below, the accuracy of when the mitigation procedures are triggered has been significantly enhanced since the Commission made that prior finding, and thus the CAISO market power mitigation procedures effectively address those time periods in which constraints may bind.

⁷⁶ Order No. 697 at P 242 ("With respect to market concentration resulting within RTO/ISO submarkets, we will continue to consider existing RTO mitigation. The Commission will consider an existing Commission-approved market monitoring and mitigation regime already in place within the RTO/ISO that provides for mitigation of the submarket We agree . . . that if the relevant RTO/ISO does not have in place a mitigation program for an identified submarket, the Commission may then consider whether and, if so, to what extent appropriate submarket-specific mitigation is needed."); *see also* BHE EIM MBR Rehearing Order at P 21 ("We agree that any future market power analysis must also consider scheduling limit constraints and whether there are submarkets; to the extent submarkets exist within the EIM footprint, Berkshire EIM Sellers would need to demonstrate that they do not have, or mitigation sufficiently addresses, their market power in the EIM, including any submarkets within the EIM.").

⁷⁷ DMM BHE Report at 14 (emphasis added).

⁷⁸ *See* BHE EIM MBR Order at PP 48-50; BHE EIM MBR Rehearing Order at PP 12-15.

The Honorable Kimberly D. Bose
August 31, 2017
Page 19

4. The BHE EIM Participants' Submarket Analysis is Corroborated by the CAISO DMM's Independent Analysis

Importantly, in contrast to the cases cited above where the market monitor argued for the existence of submarkets, in this case, the CAISO DMM has firmly concluded that the EIM is “structurally competitive” and that the congestion between the CAISO and the BHE EIM Participants' BAAs is too infrequent to justify continuing the 100 percent DEB mitigation. The following is an excerpt from the DMM BHE Report:⁷⁹

4.2 Market separation due to congestion

Another indicator that is often used to assess the structural competitiveness of a market (or a potential sub-market within a larger market) is the frequency with which an area is separated by congestion from other markets or a larger market. In an LMP market, such congestion results in *price separation*, which reflects higher LMPs within a congested area due to the positive congestion component of LMPs in that area.

Table 5 shows the portion of intervals that each of the different BHE BAAs were separated by congestion from the ISO portion of the EIM, such that prices within the BHE BAAs were higher due to congestion on EIM transfer constraints between these areas and the ISO.⁸⁰ As shown in Figure 5, the frequency of price separation due to congestion limiting transfers into the BHE BAAs is extremely low. These results provide further evidence of the structural competitiveness of BHE BAAs.

Table 5: Frequency of price separation

BAA	Share of intervals exhibiting price separation	
	15-minute market	5-minute market
PACE	2.5%	2.3%
PACW	1.7%	4.1%
NEVP	2.4%	2.1%

The structural analysis performed by DMM further addresses concerns as to physical withholding by demonstrating the ability of third-party resources in the EIM to access the BHE BAAs.⁸⁰

Additionally, in a December 7, 2016 memorandum to the CAISO Board, the DMM noted it had taken “steps to ensure strong market power mitigation in the EIM” and “support[ed]

⁷⁹ DMM BHE Report at 14.

⁸⁰ *Id.* at 1.

The Honorable Kimberly D. Bose
August 31, 2017
Page 20

additional bidding flexibility when competitive conditions exist.”⁸¹ DMM believed “this additional bidding flexibility will ultimately increase market efficiency and competitiveness by encouraging maximum participation in the [EIM].”⁸²

Importantly, the DMM found that, “*since the addition of [the NV Energy Companies] in 2015, each of these balancing areas has been structurally competitive during almost all intervals due to the availability of competitively priced supply that . . . can be transferred into each area through the [EIM].*”⁸³ The December 2016 DMM Report also states:

As shown in Table 1 [below], scheduling constraints limiting transfers into each of these areas from the [CA]ISO in the real-time market have been binding only about 1 to 3 percent of intervals. Thus, during almost all intervals the potential for the exercise of market power in these areas is mitigated by the availability of competitive supply from the [CA]ISO system.⁸⁴

**Table 1. Summary of energy imbalance market transfers and congestion
(January – October 2016)***

EIM area	Net exporter		Net importer		Import congestion from ISO*	
	Frequency	Average MW	Frequency	Average MW	15-minute	5-minute
California ISO	33%	378	67%	-343		
PacifiCorp East	80%	333	20%	-197	2%	2%
PacifiCorp West	55%	110	42%	-126	1%	3%
NV Energy	33%	154	67%	-286	2%	2%
Puget Sound Energy	46%	89	50%	-90	0%	1%
Arizona Public Service	70%	274	30%	-178	0	0

* Intervals when supply from ISO was limited due to congestion on EIM transfer constraints. Data for Puget Sound Energy and Arizona Public Service are only for October 2016.

⁸¹ Report of the CAISO DMM, “Department of Market Monitoring Update” at 1, attached hereto as Exhibit 5 (December 7, 2016) (the “December 2016 DMM Report”). The December 2016 DMM Report can also be found at: https://www.caiso.com/Documents/Department_MarketMonitoringUpdate-Dec2016.pdf.

⁸² *Id.* at 3, where DMM also noted:

[The] [CA]ISO market is designed to allow participants the flexibility to submit market bids in excess of these estimated costs to allow more efficient management of operational limits of hydro resources in the real-time market over the course of each operating day. Rather than having entities manage these gas and hydro limitations by not offering these resources during some hours, DMM believes it is better to allow suppliers to manage these limitations based on market bids that are used when mitigation is not triggered.

⁸³ *Id.* at 2 (emphasis added).

⁸⁴ *Id.* at 4.

The Honorable Kimberly D. Bose
August 31, 2017
Page 21

According to the DMM, the “volume of transfers into each of these areas available through the [EIM] appears to significantly exceed the amount of the demand for imbalance energy from third party entities during most, if not all, intervals.”⁸⁵ The DMM found that this “also mitigates the potential exercise of market power since the major supplier in each area is usually a *net buyer* in the [EIM] when congestion into their balancing area occurs.”⁸⁶

5. The BHE EIM Participants’ Submarket Analysis Is Further Corroborated by the Approach Used by Puget Sound Energy to Obtain Market-Based Rate Authority in the EIM

In July 2016, Puget Sound Energy filed with the Commission a Supplement to their Notice of Non-Material Change in Status from March 2016.⁸⁷ Puget Sound Energy presented a simplified analysis of the EIM imbalance energy in the Puget Sound Energy BAA and EIM-dedicated transfer capacity connecting the Puget Sound Energy BAA to the rest of the EIM, and with this analysis, provided evidence that the Puget Sound Energy BAA should not be treated as a submarket by the Commission.⁸⁸ The Commission accepted Puget Sound Energy’s analysis and granted Puget Sound Energy market-based rate authority within the EIM.⁸⁹

CRA applied the methodology Puget Sound Energy used to examine the imbalance energy in the NV Energy Companies, PACE, and PACW BAAs. Since most of the non-affiliate supply is located in the CAISO BAA, CRA tests for available transfers from the CAISO and into the three BHE EIM Participants’ BAAs. Table 6 of the CRA Analysis below presents the results of the analysis.

Table 6: Results of the Simplified Analysis

Summary	NEVP	PACE	PACW
Transfers available from CAISO	899	710	378
Average imbalance energy	5	-60	-47
Average positive imbalance energy	142	142	87
95th percentile imbalance energy	319	275	158
P(imbalance>transfer)	0.00%	0.00%	0.02%

⁸⁵ *Id.* at 5.

⁸⁶ *Id.*

⁸⁷ See *Puget Sound Energy, Inc., et al.*, Supplement to Notice of Non-Material Change in Status, Docket Nos. ER10-2374-010 (filed July 27, 2016).

⁸⁸ *Id.*

⁸⁹ See *Puget Sound Energy, Inc., et al.*, 156 FERC ¶ 61,242 (2016).

The Honorable Kimberly D. Bose
August 31, 2017
Page 22

B. The BHE EIM Participants Lack Market Power in the EIM

Once the lack of submarkets is established, the relevant geographic market of which to conduct a market power study is the “4-BAA” EIM footprint (*i.e.*, the CAISO, PACW, PACE, and the NV Energy Companies’ BAAs, together). As discussed in this section and in the attached CRA Analysis, the BHE EIM Participants pass both the market share screen and the pivotal supplier screen in the EIM.

As explained in the CRA Analysis, the traditional energy market indicative screens do not directly apply to the EIM.⁹⁰ Moreover, the Commission in its orders on this topic have provided specific additional guidance as to how an adequate EIM market power study was to be conducted.⁹¹ In accordance with this guidance, Dr. Hunger and Mr. Macan developed a detailed analysis of EIM market power. While the study results are presented in the traditional format (market share and pivotal supplier screens), the underlying data is much more comprehensive and granular than the Commission normally requires. While adapted to the EIM, the analysis still adheres very closely to the frameworks established in Order No. 697, Order No. 816, and related orders.

1. Test Year

The test year for the enclosed market power study is December 2015 to November 2016, in accordance with Commission guidance.⁹² Specifically, that is the first full year of the NV Energy Companies’ participation, and thus the first full year for which data is available.

⁹⁰ See CRA Analysis at 19-21, attached hereto as Exhibit 1. As the CRA Analysis notes, the pivotal supplier and the market share screens analyze the seller’s and non-affiliates’ uncommitted capacity after planned outages, and load and reserve obligations have been subtracted from installed capacity. The market share screen measures for each of the four seasons to determine whether a seller has a dominant position in the market based on the number of megawatts of uncommitted capacity owned or controlled by the seller as compared to the uncommitted capacity of the entire market. See Order No. 697 at P 34. The pivotal supplier screen evaluates the potential of a seller to exercise market power based on uncommitted capacity at the time of the BAA’s annual peak demand and this screen focuses on the seller’s ability to exercise market power unilaterally. See Order No. 697 at P 35; *see also* 18 C.F.R. § 35.37(c)(1) (2017) (“There will be a rebuttable presumption that a Seller lacks horizontal market power with respect to sales of energy, capacity, energy imbalance service, generation imbalance service, and primary frequency response service if it passes two indicative market power screens: a pivotal supplier analysis based on annual peak demand of the relevant market, and a market share analysis applied on a seasonal basis.”).

⁹¹ See Arizona Public Service Company EIM MBR Order.

⁹² *Id.* at P 29 (“However, after a [BAA] has been in the EIM for a year or longer, a participant may be able to perform an *ex post* analysis as to whether there have been frequently-binding transmission constraints that would limit potential imports into its [BAA] (or the [BAA] where its generation is located), as well as whether there has been price separation.”).

2. Relevant Product is Imbalance Energy

The relevant product to be studied for purposes of market-based rate authority in the EIM is imbalance energy. The Commission has stated:

[A]ny market power analysis of the EIM should account for the EIM's specific characteristics in establishing the relevant geographic market and the relevant product market (balancing energy). These characteristics include a specific determination of EIM supply (*e.g.*, generation that is registered, and is both available and dispatchable); EIM demand (*e.g.*, the accumulated net differences between scheduled and actual EIM [BAA] load); and a measure of import capability between all EIM [BAAs], *i.e.*, scheduling limit constraints.⁹³

Accordingly, the CRA Analysis considers the product to be imbalance energy, which is composed of actual load and intermittent generation deviations from scheduled quantities, and the supply to be the residual capacity available for dispatch by the CAISO in the real-time imbalance market.

3. Measure of Demand

Unlike in the traditional market-based rate screens, the relevant product in the EIM market-based rate screens is not total energy but only imbalance energy. The need for imbalance energy stems from the difference in demand for electricity between actual and scheduled.⁹⁴ In the traditional market-based rate screens, wholesale load is calculated as the annual peak load, the “needle peak,” less the proxy for native load obligation. This proxy is the average of the daily native peak loads during the month in which the annual peak day occurs.

By contrast, in the EIM market-based rate screens, wholesale load is calculated as the maximum hourly value of imbalance energy in the study period less an amount equal to the average of the daily maximum imbalance energy during the month in which the annual maximum occurs.

4. Measure of Supply

As noted above, the Commission instructed the BHE EIM Participants to quantify “generation that is registered, and is both available and dispatchable” in their market power study.⁹⁵ In accordance with that directive, to quantify supply available to serve demand for

⁹³ BHE EIM MBR Rehearing Order at P 26.

⁹⁴ The CRA Analysis also explains how certain renewable generation was treated as negative demand. *See* CRA Analysis at 21-22, attached hereto as Exhibit 1.

⁹⁵ BHE EIM MBR Rehearing Order at P 26.

The Honorable Kimberly D. Bose
August 31, 2017
Page 24

imbalance energy, CRA worked with the CAISO and the DMM to identify only those resources that the CAISO would have at its disposal to dispatch in the FMM and RTD. In the 4-BAA EIM area, as required by the Commission,⁹⁶ CRA considered the EIM Participating Resources as the supply in the EIM MBR Screens. EIM Participating Resources include generators that are registered to participate in the EIM, have the appropriate technical capability and telemetry as required by the CAISO, and are capable of supplying imbalance energy.⁹⁷

To account for the supply coming from the CAISO BAA, CRA took into account resources that the CAISO designates as “participating units” (“CAISO Participating Units”).⁹⁸ This is appropriate because units in the CAISO BAA do not “register” separately to participate in the EIM. Rather, the CAISO resources participate in the CAISO’s real-time market, of which the EIM is a fully-integrated, simultaneously-dispatched extension. Stated differently, demand for imbalance energy in non-CAISO BAAs (in this case, the BHE EIM Participants’ BAAs) is frequently supplied by units in California that have energy that is able to be dispatched in the FMM and RTD runs described above. CRA’s calculation of supply ensures that only those resources that are qualified to participate in the RTD (which includes the EIM) are counted.

For both BHE EIM Participants’ supply and competing supplies, CRA calculated actual residual capacity for every hour of the study period.⁹⁹ Importantly, these calculations are based on actual hourly data of unit availability. For the CAISO resources, capacity not committed in the day-ahead Integrated Forward Market (“IFM”) was deemed available in the EIM. For the BHE EIM Participating Resources, the residual capacity was derived by subtracting capacity from EIM Participating Resources that were committed to EIM Base Schedules. It bears emphasizing that these calculations of residual supply were based on actual historical data from every single hour of the test year in order to address the Commission’s concerns that the market power study not overstate the capability of units to be dispatched in the EIM. Again, this method of calculating supply was vetted with the DMM to ensure it was appropriate and accurate.

⁹⁶ NV Energy Companies EIM Order at P 202 (“[T]he study should define the relevant product to be energy imbalance service, and the relevant geographic market to be the combined geographic footprint of the CAISO market, the [PACE] and [PACW] BAAs, and the [NV Energy Companies’] BAA. In terms of who are the suppliers in this market, the [NV Energy Companies] should include in its study all generators located in these relevant markets that are capable of providing EIM service based on: (1) a unit’s technical capability of providing the service; (2) whether the unit is registered to participate in the EIM; and (3) whether the unit has the appropriate telemetry installed such that [the] CAISO operators can dispatch the unit.”).

⁹⁷ *Id.*

⁹⁸ The “Master Control Area Generating Capability List” lists all units in the CAISO Control Area (<https://www.caiso.com/Documents/MasterControlAreaGeneratingCapabilityList.xls>). Only the units that were marked as a “Participating Unit” were considered to be CAISO Participating Units.

⁹⁹ CRA’s “residual capacity” is the same concept as “uncommitted capacity” in the traditional screens. The difference in terminology reflects the fact that a balancing market is being studied, and therefore, CRA adjusted the capacity for day-ahead commitments by performing granular calculations based on actual data (as compared to the high-level estimates of “capacity” in the traditional screens).

5. Imports

The CRA Analysis took a similarly granular approach to measuring imports. As noted above, the Commission held that the BHE EIM Participants' first EIM market power study over-estimated imports (that study was based on an EIM-region wide simultaneous import limited, or "SIL," values). By contrast, the CRA Analysis took a significantly more conservative approach by calculating the appropriate amount of imports included in the screens based on actual import schedule data provided by the CAISO, rather than using SIL values, which are based on estimated transmission import capability. CRA assumed that only the imports into the combined, 4-BAA EIM area that are incremental to the imports scheduled in the IFM should be considered as available to meet imbalances in the RTD/EIM. CRA obtained IFM and RTD import schedules from the CAISO for every hour of the year. For every hour, CRA took the difference between the two (real-time minus day-ahead) and calculated that quantity to be the non-affiliate imports into the EIM area. This approach is a very granular and accurate way of looking at imports. In other words, the only imports that were counted were *actual* imports that the CAISO dispatched after the Day-Ahead Market. By looking at exactly how much incremental imported generation was brought in over every hour in the study period, CRA did not rely on estimations or assumed levels of imports.

6. Summary of Results

Table 5 below from the CRA Analysis summarizes the results of the Pivotal Supplier Screen and the Market Share Screen for the EIM. As shown in the table, the Applicants pass the indicative screens for all markets.

Table 5: Results of the EIM MBR Screens

Market	Pivotal Supplier Screen	Market Share Screen			
	Pass / Fail	Winter	Spring	Summer	Fall
EIM	Pass	13.4%	14.5%	11.2%	13.4%

With respect to the Pivotal Supplier Screen, the Applicants pass the screen in the EIM, as the Seller's uncommitted capacity is far below the net uncommitted supply.

With respect to the Market Share Screen, the Applicants' shares of uncommitted capacity across the four seasons in the EIM range from 11.2 percent to 14.5 percent, all well below the 20 percent level used by the Commission for satisfying the market share screen and the rebuttable presumption of the lack of market power.

The Honorable Kimberly D. Bose
August 31, 2017
Page 26

7. The CRA Analysis is Corroborated by the Independent Analysis of the CAISO DMM

When PacifiCorp joined the EIM, the CAISO petitioned the Commission to apply its market power mitigation to EIM transfer constraints between the PACE and PACW BAAs, and from the CAISO's BAA into the PACW BAA at start-up of the EIM.¹⁰⁰ In that filing, the DMM noted that, at that time, it was not able to "conclude that the two PacifiCorp BAAs will be structurally competitive and therefore recommends that market power mitigation procedures be applied when scheduling constraints into either of these BAAs becomes binding."¹⁰¹ DMM further committed to "continue to assess the structural competitiveness of the EIM BAAs and seek to develop other options that might be employed to refine the [CA]ISO's current market power mitigation provisions to the EIM."¹⁰² The CAISO made a similar filing in anticipation of the NV Energy Companies' participation in the EIM.¹⁰³

Since that time, the DMM has filed periodic reports with the Commission analyzing the structural competitiveness of the EIM footprint. As noted above, in the December 2016 DMM Report, the DMM found that, "*since the addition of [the NV Energy Companies] in 2015, each of these balancing areas has been structurally competitive during almost all intervals due to the availability of competitively priced supply that [] can be transferred into each area through the [EIM].*"¹⁰⁴ According to DMM, the "volume of transfers into each of these areas available through the [EIM] appears to significantly exceed the amount of the demand for imbalance energy from third party entities during most if not all intervals."¹⁰⁵ DMM found that this "also mitigates the potential exercise of market power since the major supplier in each area is usually a net buyer in the energy imbalance market when congestion into their balancing area occurs."¹⁰⁶

On June 29, 2017, DMM released a report entitled "Structural Competitiveness of the Energy Imbalance Market: Analysis of Market Power of the Berkshire Hathaway Entities."¹⁰⁷ In its report, DMM concluded that:

¹⁰⁰ *Calif. Indep. Sys. Operator*, ISO Tariff Amendments to the Energy Imbalance Market, Docket No. ER14-2484 at Attachment C (filed July 23, 2014).

¹⁰¹ *Id.* at 1.

¹⁰² *Id.*

¹⁰³ *See Calif. Indep. Sys. Operator*, Petition of the CAISO for Market Power Mitigation Authority, Docket No. ER15-2272 (filed July 24, 2015).

¹⁰⁴ December 2016 DMM Report at 2 (emphasis added).

¹⁰⁵ *Id.* at 5.

¹⁰⁶ *Id.*

¹⁰⁷ DMM BHE Report.

[T]he EIM market in the combined BHE area is structurally competitive during almost all intervals due to the amount of competitive supply that could be transferred into the BHE area from the [CA]ISO. As additional BAAs that are not affiliated with BHE join EIM, this additional transfer capacity and diversity of ownership should further increase the pool of competitive supply and make the EIM more competitive. During the relatively small number of intervals when BHE may be pivotal and competitive supply from the ISO into any of the BHE BAAs may be limited by congestion, this potential structural market power is mitigated by the ISO's real-time bid mitigation procedures. When these procedures are triggered by congestion in the real-time market, bids of all supply within a BAA that is separated from the [CA]ISO are automatically subject to cost-based bid limits.¹⁰⁸

The DMM report also noted several other important factors mitigating any possible exercise of market power. The DMM noted that, "[i]n the EIM entity areas, only a small portion of energy produced and consumed is settled by the [CA]ISO and paid based on EIM prices... If market power is exercised in EIM, it is exercised on those EIM imbalance quantities."¹⁰⁹ Table 1 from the DMM's report, which is reproduced below, shows the average imbalance demand.

Table 1: Imbalance demand (MW)

Market	average	median	Intervals demand positive	Average positive demand	Percentiles		
					90th	95th	97th
15-minute	-46	-48	41.8%	176	252	347	415
5-minute	-16	-73	42.5%	375	581	811	944

Table 3 of the DMM's report, also reproduced below, shows that the average demand for imbalance energy in the BHE EIM Participants' BAAs can be met several times over with supply from outside the BHE EIM Participants' BAAs (*i.e.*, the CAISO).

¹⁰⁸ *Id.* at 1-2.

¹⁰⁹ *Id.* at 3.

Table 3: Competitive supply from ISO into BHE (MW)

Market	Percentiles			
	5th	50th	95th	97th
15-minute	1117	1178	1228	1228
5-minute	862	947	1147	1203

The DMM also corroborated CRA's pivotal supplier analysis in Table 4 of its report, which is reproduced below. Table 4 demonstrates that the BHE EIM Participants would be pivotal only in a small fraction of hours.

Table 4: Frequency that BHE is pivotal in BHE EIM area

Month	Share of intervals with imbalance demand greater than transfer capacity	
	15-minute market	5-minute market
Dec-15	0.3%	1.8%
Jan-16	0.0%	2.6%
Feb-16	0.0%	0.3%
Mar-16	0.0%	2.0%
Apr-16	0.0%	3.0%
May-16	0.0%	1.8%
Jun-16	0.0%	2.8%
Jul-16	0.2%	1.6%
Aug-16	0.0%	1.6%
Sep-16	0.3%	0.3%

8. The Addition of Puget Sound Energy and Arizona Public Service Company as EIM Entities Further Diminishes Market Power Concerns

As described above and in greater detail in the CRA Analysis, the enclosed market power study is based on the first 12 months of actual data from EIM operations after both the NV Energy Companies and PacifiCorp began participation. However, since that time, both Arizona Public Service Company and Puget Sound Energy have joined the EIM. These additions have

The Honorable Kimberly D. Bose
August 31, 2017
Page 29

brought an additional amount of EIM Participating Resources (*i.e.*, competing generation) not accounted for in the enclosed analysis, as well as increased transfer capability both into the CAISO and other EIM BAAs—most notably the PACE BAA. Portland General Electric Company is expected to join in October 2017, which will bring additional transfer capacity from California to the Northwest. Other participants, including Powerex,¹¹⁰ Idaho Power Company,¹¹¹ and non-jurisdictional participants such as Seattle City Light, the Balancing Area of Northern (on behalf of its member Sacramento Municipal Utility District), Salt River Project, and the Los Angeles Department of Water and Power are actively working on their respective participation efforts. These developments are therefore pro-competitive and, because the enclosed CRA Analysis does not account for these developments, render the enclosed market power analysis necessarily conservative in nature.

V. THE BHE EIM PARTICIPANTS LACK VERTICAL MARKET POWER

The BHE EIM Participants continue to lack vertical market power. The start-up of the EIM, and the joining of the BHE EIM Participants, have no bearing on the Commission's tests for vertical market power. Indeed, open access to the NV Energy Companies' jointly-operated transmission system and the PacifiCorp transmission system continues to be provided pursuant to the terms of OATTs on file with the Commission. In addition, the CAISO's monitoring of the EIM will include monitoring the use of the interties between the BHE EIM Participants' BAAs and the balance of the EIM footprint. Thus, there should be no concern about any exercise of market power over use of these interties.

Certain affiliates of the BHE EIM Participants continue to own or control inputs to electric generation and/or assets used to transport such inputs, but such ownership or control has not given rise to concerns in the past and the start-up of the EIM should not have any impact on that fact.¹¹²

Lastly, in accordance with Section 35.37(e)(3) of the Commission's regulations,¹¹³ each of the BHE EIM Participants affirmatively states that it has not erected barriers to entry into the relevant market and will not erect barriers to entry into the relevant market.

¹¹⁰ See *Powerex*, Motion to Intervene and Comments of Powerex on EIM Implementation Agreement, Docket No. ER17-1796 (filed June 28, 2017) (in comments on the EIM Implementation Agreement filed by the CAISO, Powerex stated its intention to commence participating in the EIM on April 4, 2018).

¹¹¹ See *Idaho Power Co.*, Tariff Revisions to Facilitate Entry into the EIM, Docket No. ER17-2075 (filed July 11, 2017) (amendments to Idaho Power Company's OATT to facilitate entry into the EIM and noting the target date to commence participation is April 4, 2018).

¹¹² See, e.g., *Nev. Power Co., et al.*, 149 FERC ¶ 61,219 at P 36 (2014) ("Based on the Berkshire MBR Sellers' representations, we find that they satisfy the Commission's requirements for market-based rate authority regarding vertical market power.").

¹¹³ 18 C.F.R. § 35.37(e)(3) (2017).

The Honorable Kimberly D. Bose
August 31, 2017
Page 30

VI. THE CAISO'S MARKET POWER MITIGATION ADDRESSES ANY CONCERNS ABOUT EIM MARKET POWER

It has long been Commission policy that sellers in organized markets who fail the indicative screens may rely on Commission-approved RTO market power mitigation measures in order to sell at market-based rates.¹¹⁴ Before the BHE EIM Participants commenced their participation in the EIM, the Commission approved the extension of the CAISO's real-time market power mitigation measures to the EIM.¹¹⁵ As described in more detail below, the CAISO-enforced mitigation measures would mitigate the BHE EIM Participants' bids to their cost-based DEB during any interval when price separation occurs between the CAISO and the BHE EIM Participants' BAAs. Currently, the BHE EIM Participants are mitigated to their DEB at all times.

However, with regard to the BHE EIM Participants, the Commission found that the market power mitigation measures, while just and reasonable, were at that time insufficient to address the Commission's concerns about market power in the EIM.¹¹⁶ Since that time, the CAISO and the BHE EIM Participants have each taken steps to address the Commission's perceived deficiencies in the mitigation. Accordingly, as confirmed by the DMM, the market power mitigation measures can now be relied upon to address any concern over market power in the EIM. In accordance with Commission precedent noted above,¹¹⁷ the enclosed market power analysis would in that case be moot.

A. Summary of Market Power Mitigation Procedures

The operation of the EIM is governed by the CAISO tariff and, in particular, Section 29 thereof (with additional relevant provisions located elsewhere within the CAISO tariff and, with respect to the DMM, Appendices O and P). Importantly, the EIM is fully subject to the governance of the CAISO Board, the independent EIM Governing Body, and the market monitoring rules of the CAISO tariff, as overseen and administered by the DMM.¹¹⁸ As characterized by the Commission in the CAISO EIM Order, where it approved changes to the CAISO tariff to establish the EIM:

¹¹⁴ Order No. 697 at PP 240-42, 290; *see also*, Order No. 697-A at P 111 (adopting a rebuttable presumption that existing Commission-approved RTO/ISO market monitoring and mitigation is sufficient to address any market power concerns); Order No. 816 at P 28 ("We will continue to allow sellers to seek to obtain or retain market-based rate authority by relying on Commission-approved RTO/ISO monitoring and mitigation in the event that such sellers fail the indicative screens for the RTO/ISO markets.").

¹¹⁵ *See Cal. Indep. Sys. Operator Corp.*, 148 FERC ¶ 61,222 (2014) ("CAISO EIM Startup Order").

¹¹⁶ BHE EIM MBR Order at P 51.

¹¹⁷ *See supra* n.114.

¹¹⁸ CAISO EIM Order at PP 6, 103-104, 109.

The Honorable Kimberly D. Bose
August 31, 2017
Page 31

[The] CAISO . . . will use a process based on its existing local market power mitigation approach—which mitigates bids which might have an effect on prices at transmission constraints deemed non-competitive via [the] CAISO’s dynamic competitive path assessment—to mitigate market power in each BAA participating in the EIM, and will monitor and assess the need for market power mitigation at the interties before and after implementation.¹¹⁹

In furtherance of this task, the DMM is required, among other things, to “monitor[] the markets for actual or potential ineffective market rules, market abuses, market power, or violations of Commission or [the] CAISO market rules. . . .”¹²⁰ As held by the Commission in approving the EIM, “the [DMM] is a logical choice to act as market monitor for the EIM, as it has extensive experience in monitoring an imbalance market in the West and with [the] CAISO’s software.”¹²¹

In addition, the CAISO is required to “apply real-time local market power mitigation to the participation of EIM Market Participants in the real-time market” using essentially the same procedures as those applicable to the other CAISO markets including, if necessary, the implementation of DEBs.¹²² In approving the EIM, the Commission held that it “has found [the] CAISO’s [historical] real-time local market power mitigation process to be just and reasonable,” and thus accepted the CAISO’s proposal to use these measures for the EIM as well.¹²³

Market power mitigation in the EIM is governed by Section 29.39 of the CAISO tariff. To protect against the potential exercise of market power in the EIM, the CAISO applies two different mechanisms: (1) local market power mitigation within the EIM footprint; and (2) a structural market power mitigation that enables market power mitigation on the interties between BAAs in the EIM footprint.¹²⁴ The Commission has approved the application of this market power mitigation procedure to the EIM interties.¹²⁵

As explained by the CAISO, the CAISO previously did not “conduct a distinct mitigation run for each RTD interval.”¹²⁶ For the real-time market, the CAISO conducted a mitigation run

¹¹⁹ *Id.* at P 15.

¹²⁰ *Id.* at P 60.

¹²¹ *Id.* at P 109.

¹²² *Id.* at P 61.

¹²³ *Id.* at P 217.

¹²⁴ *See* CAISO Tariff at § 29.39(a).

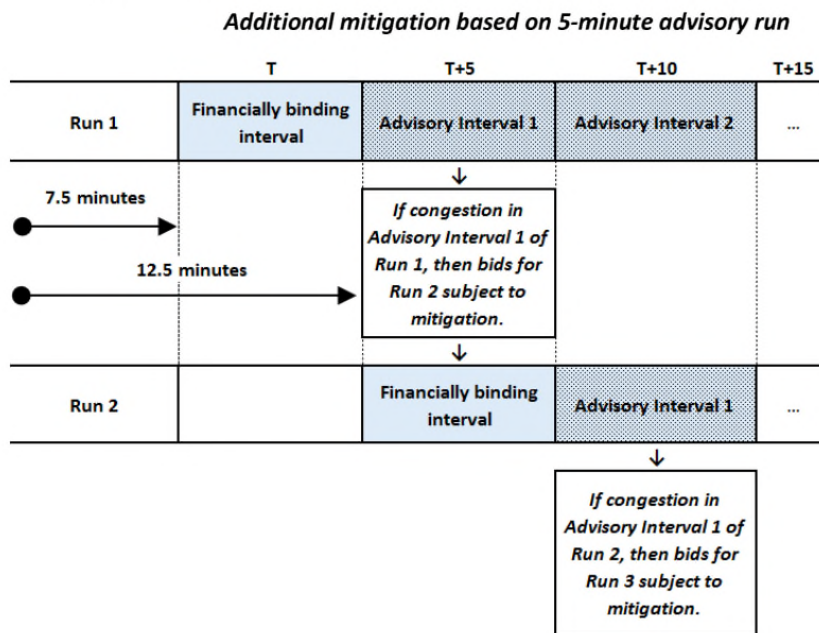
¹²⁵ *Cal. Indep. Sys. Operator Corp.*, 155 FERC ¶ 61,329 (2016).

¹²⁶ *Cal. Indep. Sys. Operator Corp.*, CAISO Tariff Amendments to Enhance Local Market Power Mitigation Procedures, Docket No. ER16-1983-000 at 3 (June 21, 2016).

for each 15-minute real-time unit commitment (“RTUC”) interval immediately before the binding run. This meant that the mitigation run started fifty-two-and-a-half minutes (T-52.5) before the time covered by that RTUC interval, with the binding run for that same interval starting at thirty-seven-and-a-half minutes (T-37.5) before the interval. Mitigation triggered for a 15-minute RTUC interval will also apply for each of the constituent RTD intervals within that FMM interval. Mitigation also carries over for the remaining RTUC intervals for that hour, as well as the RTD intervals within any such remaining RTUC intervals.

In June 2016, the CAISO filed enhancements to its market power mitigation procedures.¹²⁷ These procedures narrowed the timelines, and therefore the accuracy, for the mitigation to prevent any over or under mitigation. The following illustrations provided by the CAISO explain the new timeline for bid mitigation in the RTD and the FMM:¹²⁸

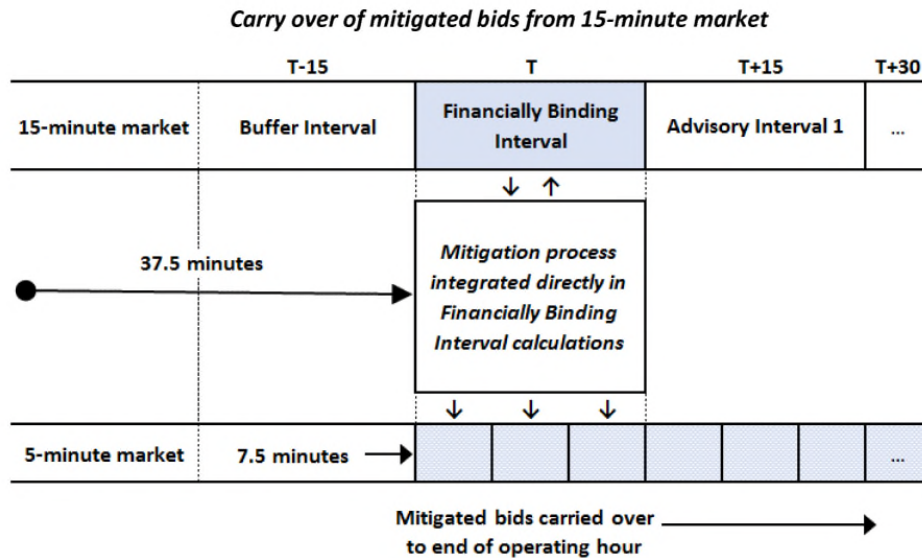
Figure 4. Market power mitigation process after enhancements (5-minute market):



¹²⁷ *Id.*

¹²⁸ *Id.* at Attachment C, pp. 6-7.

Figure 5. Market power mitigation process after 15-minute market enhancements:



For each constraint that is projected to be binding, the CAISO performs a three-pivotal supplier test to determine if the supply available to relieve the binding constraint is structurally competitive or non-competitive.¹²⁹ Under this test, a constraint is deemed structurally competitive only if there is sufficient supply that is effective at resolving the constraint, after removing the supply controlled by the three largest suppliers. If this test determines that the constraint is structurally non-competitive, bids of resources that are effective at relieving congestion on the constraint are subject to potential bid mitigation. As applied to the EIM, if the EIM Participating Resources affiliated with the EIM Entity are pivotal, they will be mitigated to their DEB when congestion is actually present, rather than the current situation whereby these resources are mitigated in the overwhelming majority of intervals when no congestion is present.

The CAISO market mitigation process includes transmission constraints on EIM interties.¹³⁰ An intertie into an EIM BAA binds (*i.e.*, is congested) when the cost of supply needed to meet demand in that BAA within the EIM is higher than the cost of supply in the EIM outside of that BAA. If this structural test indicates that the constraint is non-competitive, the CAISO applies a second set of procedures to identify any market bids that must be mitigated. Bids for units that can relieve congestion on noncompetitive constraints are subject to potential mitigation. Market bids from these units are reduced only if the bids exceed both: (1) a competitive LMP calculated by the market software (which excludes congestion from

¹²⁹ All suppliers participating in the EIM are considered to be potential pivotal suppliers in the pivotal supplier test. In the CAISO, suppliers classified as net buyers are not considered potentially pivotal suppliers.

¹³⁰ See CAISO EIM Startup Order; see also CAISO EIM Rehearing Order at PP 76, 81.

The Honorable Kimberly D. Bose
August 31, 2017
Page 34

noncompetitive constraints); and (2) the DEB of the unit, which reflects the unit's marginal operating cost plus a 10 percent adder. The software will cap market bids exceeding both of these two values at the higher of the competitive LMP or the unit's DEB.¹³¹

The Commission has previously approved the CAISO's market monitoring and mitigation when it noted that the CAISO's market monitoring and mitigation are "sufficient to address market power concerns."¹³²

B. The Commission's Previous Mitigation Concerns Have Been Addressed

The Commission expressed two discrete concerns with the efficacy of the CAISO's market power mitigation procedures, as applied to the EIM. First, the Commission held that the voluntary nature of the EIM could permit sellers to engage in physical withholding during times of bid mitigation, while bidding only higher-priced units that could raise the market-clearing price.¹³³ Second, the Commission concluded the CAISO lacked sufficient visibility into transmission constraints because certain transmission constraints were not "activated," such that

¹³¹ In his declaration in Docket No. ER14-2484, in which the CAISO requested authorization to include PacifiCorp EIM transfer constraints in the local market power mitigation procedures under Section 39.7 of its tariff, Dr. Hildebrandt, Director of DMM for the CAISO, provided the following example: "For instance, assume a unit within an EIM BAA has a marginal cost of \$30/MW and a DEB of \$33/MW after application of the 10 percent adder. Further assume that market power mitigation procedures are triggered by congestion into this EIM BAA during a 15-minute interval on EIM transfer constraints that is noncompetitive due to a high concentration of ownership of supply resources in this EIM BAA. During this interval, the competitive LMP for this 15-minute interval used in mitigation is \$40/MW. If the unit is bid into the EIM market at a price up to \$40/MW, the bid would not be lowered. If the unit was bid at a higher price, such as \$60/MW, the bid would be capped at the higher of: (1) the competitive LMP (\$40/MW); or (2) the unit's DEB (\$33/MW). Thus, if the unit had a higher marginal cost of \$50/MW, for example, the unit's bid would be reduced to its DEB of \$55/MW (\$50/MW + 10 percent adder)." *Calif. Indep. Sys. Operator*, ISO Tariff Amendments to the Energy Imbalance Market, Docket No. ER14-2484, Attachment D at p. 16 (filed July 23, 2014).

¹³² *NRG Power Mktg. LLC, et al.*, 150 FERC ¶ 61,011 at P 9 (2015). *See also Dynegy Mktg. & Trade*, 125 FERC ¶ 61,270 at P 16 (2008) ("[T]he markets and submarkets, in which these screen failures occur, are subject to RTO/ISO market power monitoring and mitigation that the Commission has found sufficient to address market power concerns. Based on the foregoing market monitoring and mitigation present in the ISO-NE, NYISO, and [the] CAISO markets, the Commission finds that [Dynegy] satisfies our horizontal market power concerns.").

¹³³ BHE EIM MBR Order at P 47. In outlining its concern over the voluntary nature of the EIM (*i.e.*, the lack of a must offer requirement), the Commission also recognized that the voluntary nature was a critical component of the EIM design such that imposing a must-offer requirement was not necessary. *See id.* The BHE EIM Participants emphasize that, while the Commission drew a comparison to other RTO markets with must-offer requirements, including the CAISO, only the CAISO units that have resource adequacy obligations have such a must-offer requirement. Similarly in the EIM, units committed in the Base Schedule on a day-ahead basis are scheduled to be available in real-time. The BHE EIM Participants' units that are not committed in the Base Schedule present no more of a risk of physical withholding than the CAISO units that have no resource adequacy obligation, to whom no must-offer obligation applies.

The Honorable Kimberly D. Bose
August 31, 2017
Page 35

congestion could go undetected, leading to periods of under-mitigation.¹³⁴ Those concerns no longer provide bases to require full-time cost-based bidding. In addition, the CAISO has significantly improved the accuracy of its mitigation since the Commission last reviewed it in this context.

As to the Commission's first concern regarding potential physical withholding, the best protection is the structurally competitive state of the EIM market, as found by the DMM. As noted in the DMM BHE Report, "This structural competitiveness mitigates the potential for the exercise of market power through both economic and physical withholding during almost all intervals."¹³⁵ In addition, the attached Affidavit of Kelcey Brown of PacifiCorp explains why physical withholding would be an almost impossible strategy to implement, given the other requirements the BHE EIM Participants must satisfy.¹³⁶

Additionally, the DMM has complete visibility into the bidding strategies of the BHE EIM Participants. Any bidding behavior that appears to be anti-competitive can be pursued by the DMM and, if appropriate, brought to the Commission's attention. Finally, the Commission has historically placed significant weight on the seller's incentive (or lack thereof) to exercise market power. The NV Energy Companies and PacifiCorp are not just EIM sellers—they are potentially the biggest EIM consumers.¹³⁷

The BHE EIM Participants' native load, typically the largest proportion of load in a given interval, has the largest exposure to potential imbalance assessments and therefore, a high potential for loss if the imbalance energy prices are high. In addition, the revenues from sales of energy beyond that needed to serve retail load, including from energy awards in the EIM, are allocated to the benefit of retail load.¹³⁸ As the Commission has consistently and appropriately found, entities operating under such a structure have little incentive to extract monopoly prices from the market, and that lack of an incentive is entirely appropriate for the Commission to

¹³⁴ *Id.* at P 50.

¹³⁵ DMM BHE Report at 1.

¹³⁶ *See* Affidavit of Kelcey Brown at P 5, attached hereto as Exhibit 2.

¹³⁷ *See, e.g., Nev. Power Co., et al.*, Request for Rehearing of the EIM Participants, Docket Nos. ER15-2281, *et al.* at 8-9 (filed Dec. 21, 2015) (noting that the NV Energy Companies and PacifiCorp are potentially the biggest EIM consumers and, therefore, would have the largest exposure to imbalance assessments, meaning a high potential for loss if the imbalance energy prices are inflated due to an exercise of market power); *see also* Affidavit of Kelcey Brown at P 4, attached hereto as Exhibit 2.

¹³⁸ *See, e.g., Nev. Power Co., et al.*, 149 FERC ¶ 61,079 at PP 33-34 (2014) ("LV Cogen Order") (noting that the NV Energy Companies fully credit any profits from wholesale sales to retail customers); *see also* BHE EIM MBR Order at P 39 (noting that the BHE EIM Participants' answer to comments filed in that proceeding explained that all off-system sales revenues are credited to retail ratepayers or reduce net power costs, which benefits retail ratepayers).

The Honorable Kimberly D. Bose
August 31, 2017
Page 36

consider when evaluating market rules and structure.¹³⁹ Finally, transmission customers can further protect themselves by not under-providing their demand or schedules. Indeed, transmission customers are compensated for this additional supply under Schedule 9.

As to the Commission's second concern regarding activation of transmission constraints, as the DMM has notified the Commission previously, all relevant transmission constraints have now been modeled for both the NV Energy Companies and PacifiCorp. Specifically, the DMM has reported to the Commission that all applicable constraints had been activated on the PacifiCorp system by December 2015,¹⁴⁰ and that most applicable constraints on the NV Energy Companies' system had been activated by early February 2016.¹⁴¹

Finally, as discussed above, the DMM has enhanced its mitigation. On June 21, 2016, the CAISO filed tariff amendments in Docket No. ER16-1983 to enhance the local market power mitigation procedures used in the real-time dispatch. In its order issued November 8, 2016, the Commission found that:

¹³⁹ See, e.g., LV Cogen Order at PP 33-34 (2014) ("[Applicants] have provided evidence specific to the Proposed Transaction which indicates that, with appropriate mitigation, there will not be an ability and incentive to withhold output. First, Nevada Power is required to fully credit any profits from wholesale sales to retail customers through a fuel adjustment clause. As the Commission found in *Nevada Power Co.*, this reduces the incentive for Nevada Power to raise prices. The requirement to credit retail customers with profits from wholesale sales reduces the incentive to exercise market power because the seller will not receive any benefit from the additional revenue received from manipulating market prices. Second, the NV Energy Companies are a significant net buyer of energy, having derived 30 to 50 percent of its energy from purchased power in the period 2011-2013, again demonstrating that it lacks the incentive to induce higher market prices."); but see BHE EIM MBR Rehearing Order at P 15 ("...[T]he ability to exercise market power provides adequate justification to impose mitigation.").

¹⁴⁰ See *Calif. Indep. Sys. Operator Corp.*, Energy Imbalance Market Enforcement of Transmission Constraints – PacifiCorp, Docket Nos. ER15-2281-000, *et al.*, attached hereto as Exhibit 7 at 4 (dated March 29, 2017) ("Gradually, as PacifiCorp gained operational experience and understanding of how the EIM was functioning within its [BAAs], PacifiCorp started to enforce the constraints beginning March 2015, and the majority of constraints, subject to the exclusion criteria discussed further below, were enforced by the end of 2015. As of today, PacifiCorp supports enforcement of the constraints for all elements, except for those that meet the exclusion criteria detailed below.") ("PacifiCorp Enforcement of Transmission Constraints Report").

¹⁴¹ See *Calif. Indep. Sys. Operator Corp.*, Energy Imbalance Market Enforcement of Transmission Constraints – NV Energy Inc., Docket Nos. ER15-2281-000, *et al.*, attached hereto as Exhibit 8 at 5-6 (dated November 10, 2016) ("NV Energy Companies Enforcement of Transmission Constraints Report"). That report concluded that some 120 kV elements remained unactivated until Summer 2016, but through the efforts of DMM and the NV Energy Companies, identified the missing constraints and incrementally enforced them such that the full set was being enforced by September, 2016. The NV Energy Companies advised the CAISO that as of December 18, 2015, all elements that are 138 kV and above, and subject to constraint enforcement, should be enforced without exception. The NV Energy Companies further advised the CAISO that as of February 11, 2016, all elements that are over 100 kV, and subject to constraint enforcement, should be enforced without exception. The NV Energy Companies have not since applied any exceptions to any of the elements in the model. Today, the NV Energy Companies support enforcement of the constraints for all elements above 100 kV that are subject to enforcement.

The Honorable Kimberly D. Bose
August 31, 2017
Page 37

[The CAISO's] proposal will improve the accuracy and effectiveness of [the] CAISO's local market power mitigation process by addressing situations where [the] CAISO currently under-mitigates in the real-time dispatch process. We agree with [the] CAISO that improving the granularity of the mitigation process and improving the information that goes into the market runs will result in a more accurate representation of real-time system conditions that should enhance the overall measure of competitiveness of the market. We also agree with [the] CAISO that carrying over mitigation from the real-time unit commitment process to the real-time dispatch process, and carrying over real-time dispatch mitigation to any five-minute dispatch intervals remaining within a given 15-minute real-time unit commitment interval will result in more effective mitigation of local market power, address identified operational concerns, avoid uplift charges, and result in smoother unit dispatch.¹⁴²

On January 13, 2017, and again on March 24, 2017, the CAISO filed waiver requests to delay the implementation of the new local market power mitigation process.¹⁴³ The Commission granted both requests, ultimately providing that the tariff revisions to implement the market power mitigation process would go into effect April 1, 2017.¹⁴⁴ In a July 2017 presentation by the DMM, the DMM reported that the enhancements had been effectively implemented and significantly reduced the instances of potential under-mitigation in the real-time market.¹⁴⁵

On August 28, 2017, the DMM published a new report, citing a dramatic decrease in instances of under-mitigation, and concluding that, "[t]he increased accuracy ensures the effectiveness of these automated mitigation procedures and mitigates concern that an EIM entity would have the opportunity to exercise market power through economic withholding."¹⁴⁶

¹⁴² *Cal. Indep. Sys. Operator Corp.*, 157 FERC ¶ 61,091 at P 19 (2016).

¹⁴³ See *Cal. Indep. Sys. Operator Corp.*, Petition of the CAISO for Limited Tariff Waiver of the CAISO, Docket No. ER16-1983-001 (filed Jan. 13, 2017); see also *Cal. Indep. Sys. Operator Corp.*, Petition of the CAISO for Limited Tariff Waiver to Postpone Effective Date Until No Later than May 31, 2017, Docket No. ER16-1983-002 (filed March 24, 2017).

¹⁴⁴ See *Cal. Indep. Sys. Operator Corp.*, 159 FERC ¶ 62,166 (2017) (letter order accepting the CAISO's second request for waiver and establishing an effective date for the tariff revisions of April 1, 2017).

¹⁴⁵ See DMM Presentation, attached hereto as Exhibit 4.

¹⁴⁶ Report of the CAISO DMM, "Impact of Real-Time Market Power Mitigation Enhancements in EIM Areas" at 1, attached hereto as Exhibit 6 (August 28, 2017) (the "August 2017 DMM Report"). The August 2017 DMM Report can also be found at: <https://www.caiso.com/Documents/ImpactofReal-timeMarketPowerMitigationEnhancementsinEIMAreas.pdf>.

The Honorable Kimberly D. Bose
August 31, 2017
Page 38

VII. INEFFICIENCIES OF THE CURRENT DEB-BIDDING RESTRICTION

As discussed above, the BHE EIM Participants are currently mitigated to bidding at their cost-based DEB 100 percent of the time. The EIM was not designed to be operated on this basis (indeed, other EIM participants participate at market-based rates), and the Commission's orders suggest it did not intend this to be a permanent fixture of the EIM. While the absence of market power alone, bolstered by the presence of effective CAISO mitigation, supports reinstating market-based rate authority for the EIM, the BHE EIM Participants, in order to ensure a complete record, detail here certain restrictions of the current DEB-bidding regime that threaten their ability to recover their costs in certain circumstances. This provides an additional basis to support reinstating market-based rates.

As explained in the attached Affidavit of Kelcey Brown, the BHE EIM Participants have experienced operational restrictions under the current cost-based bidding restriction, including the inability to properly manage hydro resources and the inability to respond to intra-day gas supply fluctuations.¹⁴⁷

VIII. DESCRIPTION OF TARIFF CHANGES

Section 11 of both the Nevada Power and Sierra Pacific market-based rate tariffs, and Section 8(c) of PacifiCorp's market-based rate tariff, currently include the limitation on the BHE EIM Participants' EIM sales, requiring bidding at the DEB 100 percent of the time. In the enclosed redlined and clean tariff records, those provisions are revised to remove that limitation.

IX. EFFECTIVE DATE

The BHE EIM Participants respectfully request that the enclosed MBR Tariff revisions be made effective November 1, 2017, 62 days after filing.

X. REQUEST FOR PRIVILEGED TREATMENT

The BHE EIM Participants respectfully request privileged treatment, in accordance with 18 C.F.R. § 388.112 (2017), for certain workpapers supporting the CRA Analysis. These workpapers contain "[t]rade secrets and commercial or financial information obtained from a person [that are] privileged or confidential."¹⁴⁸ The information contained in these documents is thus commercially sensitive and not publicly available. Accordingly, good cause exists for the Commission to grant this request for privileged treatment of this information.

¹⁴⁷ Affidavit of Kelcey Brown at PP 7-12, attached hereto as Exhibit 2.

¹⁴⁸ 18 C.F.R. § 388.107(d) (2017).

The Honorable Kimberly D. Bose
August 31, 2017
Page 39

As required by 18 C.F.R. § 388.112(b), the BHE EIM Participants have included as Attachment 4 hereto a proposed protective agreement based on the Commission's model protective order.

Any questions regarding this request for confidential treatment should be directed to the undersigned counsel.

XI. EXHIBITS AND ATTACHMENTS

- Exhibit 1 – CRA Analysis and Workpapers¹⁴⁹
- Exhibit 2 – Affidavit of Kelcey Brown
- Exhibit 3 – DMM BHE Report (June 29, 2017)
- Exhibit 4 – DMM Presentation (July 13, 2017)
- Exhibit 5 – December 2016 DMM Report (December 7, 2016)
- Exhibit 6 – August 2017 DMM Report (August 28, 2017)
- Exhibit 7 – PacifiCorp Enforcement of Transmission Constraints
Report (March 29, 2017)
- Exhibit 8 – NV Energy Companies Enforcement of Transmission Constraints
Report (November 10, 2016)
- Exhibit 9 – CAISO Q2 EIM Benefits Report (July 31, 2017)
- Attachment 1 – MBR Tariff revisions (in clean and marked form, submitted via e-Tariff)
- Attachment 2 – List of Affiliates¹⁵⁰

¹⁴⁹ Some workpapers associated with the CRA Analysis are being submitted on CD-ROM under separate cover.

¹⁵⁰ The BHE EIM Participants attach hereto as Attachment 2 a Form 65 filing as last filed with the Commission in Docket No. HC16-1 by their parent, Berkshire Hathaway Energy, which includes a comprehensive list of affiliates and upstream owners, including those “involved in the energy industry.” *See* Order No. 697-A at P 181, n.258.

The Honorable Kimberly D. Bose
August 31, 2017
Page 40

- Attachment 3 – Table of Assets
- Attachment 4 – Form of Protective Agreement

XII. SERVICE

The BHE EIM Participants are serving this filing on those entities that were parties to Docket Nos. ER15-2281, *et al.*, customers under their respective OATTs, and their respective state commissions.

XIII. CONCLUSION

The BHE EIM Participants respectfully request that the Commission accept the enclosed modifications to their respective MBR Tariffs for filing effective November 1, 2017, 62 days from filing.

Respectfully submitted,

/s/ Christopher R. Jones

Christopher R. Jones
Chris D. Zentz
TROUTMAN SANDERS LLP

Counsel for BHE EIM Participants

EXHIBIT 1

CRA Analysis

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Nevada Power Company	)	Docket No. ER15-2281-_____
PacifiCorp	)	Docket No. ER15-2282-_____
Sierra Pacific Power Company	)	Docket No. ER15-2283-_____

**AFFIDAVIT OF
DR. DAVID HUNGER AND MR. EDO MACAN**

I. INTRODUCTION

My name is David Hunger. I am a Vice President of Charles River Associates (“CRA”). My business address is 1201 F Street, NW, Suite 700, Washington, DC 20004-1229. I am experienced in energy market analysis, and was formerly a senior economist at the Federal Energy Regulatory Commission (the “Commission”). For 14 years at the Commission, I took part in or led analyses involving mergers and other corporate transactions; market power in market-based rates (“MBR”) cases; investigations of market manipulation in electricity and natural gas markets, demand response compensation, compliance cases for Regional Transmission Organizations (“RTOs”); and competition issues in electricity markets. Since leaving the Commission and joining CRA in June 2013, I have testified in numerous Commission proceedings involving market power and market design in the organized markets administered by independent system operators (“ISOs”) and RTOs. A summary of my background and relevant experience is provided in Exhibit CRA-1.

My name is Edo Macan. I am a Principal at Charles River Associates. My business address is 200 Clarendon Street, Boston, MA 02116. My practice is focused on mergers and acquisitions (“M&A”) and quantitative analytics in energy markets. I have twenty years of experience advising electric utilities and independent power producers on asset valuation, energy risk management, fuel procurement, contractual disputes, mergers and acquisitions, demand response, renewables, emission markets, and environmental compliance. I led analysis and filed affidavits in several Commission Section 203 applications and numerous MBR filings, and have been a technical lead

on numerous acquisition analyses. I have also consulted on market manipulation investigations and have been one of a group of principal investigators in market investigation and manipulation cases, including the Commission's investigation of the Western Energy Crisis. Prior to economic consulting, I served as associate director of corporate risk management at Duke Energy in Houston. A summary of my professional background and relevant experience is provided in Exhibit CRA-2.

CRA has been asked by PacifiCorp and NV Energy (collectively, the "BHE Companies" or "Sellers" or "Applicants") to perform an analysis of market power associated with the BHE Companies' application to participate in the California Independent System Operator ("CAISO") Energy Imbalance Market ("EIM") at market-based rates. While the Commission has provided guidance in several recent orders, the EIM is unique and still relatively new. Accordingly, a study of market power in the EIM had to be constructed from the ground up. CRA has worked with the BHE Companies and the CAISO to obtain relevant data to provide the Commission with a thorough and complete analysis, consistent with the guidance from the prior orders. CRA explains herein how we adapted the Commission's indicative market power screens for application to the EIM.

CRA's analysis has two primary components. First, we perform an analysis of whether PacifiCorp and NV Energy Balancing Authority Areas ("BAAs") within the EIM should be considered a submarket, indicating a need for additional analysis of the Applicants' ability to exercise market power within any identified submarkets. CRA evaluated the Commission's two primary points of analysis on this question – price separation and physical congestion. Second, CRA performs the Commission's indicative MBR screens adapted to the specific circumstances of the EIM.

II. SUMMARY OF CONCLUSIONS

Our analysis shows that the BHE Companies lack the ability to exercise market power in the EIM. First, CRA concludes that the relevant geographic market is the entire EIM footprint. Congestion and price separation data demonstrate that there are no submarkets in the EIM that warrant further analysis on a stand-alone basis. Specifically, the integration of the NV Energy BAA into the EIM has facilitated greater transfers and liquidity to the PacifiCorp-East ("PACE") BAA

that ensures that none of the BHE Companies' BAAs should be considered as a submarket. Studying, therefore, the entire EIM footprint, CRA concludes that the BHE Companies easily pass the Commission's market power screens for the imbalance energy product.

Four additional points warrant emphasis, which CRA will explain in greater detail below. First, in addition to the Commission's traditional screens, CRA also performed an analysis similar to that undertaken by Puget Sound Energy ("Puget") that the Commission found supported Puget's ability to participate in the EIM using market-based rates. Specifically, CRA's comparison of the available transfer capacity into the BHE Companies' BAAs was greater than the demand for imbalance energy.

Second, consistent with the Commission's guidance to base this study on a year's worth of actual EIM market data, the test year for our analysis (December 2015 - November 2016) does not take into account the subsequent expansion of the EIM. Thus, it does not take into account the additional transfer capability and resources brought into the EIM by the addition of Arizona Public Service Company ("APS") and Puget beginning in October 2016. These additions further dilute the BHE Sellers' market shares in the EIM and thus diminish concerns about horizontal market power in the EIM.

Third, consistent with the compliance filings accepted by the Commission in Docket No. ER15-2281¹ and as verified by the Department of Market Monitoring, PacifiCorp and NV Energy have activated their internal transmission constraints in the CAISO full network model. Fourth, at the time of this filing, the CAISO has recently implemented long-anticipated enhancements to local market power mitigation procedures. These revised and enhanced mitigation procedures provide additional assurance that, even when the sellers have market-based rate authority, any system conditions that could give rise to the exercise of market power is addressed through bid mitigation.

¹ CAISO, Energy Imbalance Market Enforcement of Transmission Constraints, NV Energy, Docket No. ER15-2281 (filed November 10, 2016); CAISO, Energy Imbalance Market Enforcement of Transmission Constraints, PacifiCorp, Docket No. ER 15-2281 (filed March 29, 2017).

In sum, our analysis of EIM market data provides the evidentiary basis for the Commission to grant the BHE Companies unfettered market-based rate authority for the EIM.

III. SUMMARY OF COMMISSION GUIDANCE

In designing this market power study, we were guided by several Commission orders on this topic. Those orders pertained to the Berkshire EIM Participants as well as Arizona Public Service Company. We will briefly summarize those guidance areas here, and discuss how we designed the study to account for those mandates.

First, in *Arizona Public Service Co.*, the Commission suggested that mitigated EIM participants like the Berkshire EIM Participants may be able to re-file with a year's worth of actual data.² Accordingly, our study is based on a December 2015 – November 2016 test year. That period represents the first full year of NV Energy's EIM participation (PacifiCorp joined earlier).

Second, this use of a historical test period allows us to use real pricing data. For our price separation study, we used shadow prices of the power balance constraints provided by the CAISO for every hour of the test period year. For a given EIM BAA, the shadow price represents the difference between the market price of that EIM BAA and the market price in CAISO. It is a publically-available price on the CAISO OASIS site, and is the same data the CAISO DMM uses for its congestion analysis. If the power balance constraint shadow price is zero, then there is no congestion between the two relevant BAAs and their prices are equal; if the shadow price is negative, then the congestion is into CAISO and the price is higher in CAISO than the outside BAA; if the

² *Arizona Public Service Co.*, 156 FERC ¶ 61,148 at P 29 (2016). However, after a balancing authority area has been in the EIM for a year or longer, a participant may be able to perform an ex post analysis as to whether there have been frequently-binding transmission constraints that would limit potential imports into its balancing authority area (or the balancing authority area where its generation is located), as well as whether there has been price separation.

shadow price is positive, then the congestion is out of CAISO and the price in the outside BAA is higher than in CAISO.³

Third, as to supply, the Commission explained that units should only be counted as available in the market power study to the extent they can actually participate in the EIM.⁴ EIM Participating Resources include generators that are registered to participate in the EIM, have the appropriate technical capability and telemetry as required by the CAISO, and are capable of supplying imbalance energy. To account for the supply coming from the CAISO BAA, CRA took into account resources that the CAISO designates as “participating units” (“CAISO Participating Units”). This is appropriate because units in the CAISO BAA do not “register” separately to participate in the EIM. Rather, CAISO resources participate in the CAISO’s real-time market, of which EIM is a fully-integrated, simultaneously dispatched extension. Stated differently, demand for Imbalance Energy in non-CAISO BAAs (in this case the Berkshire BAAs) is frequently supplied by units in California that have energy that is able to be dispatched in the Fifteen-Minute Market and Five-Minute Market runs. CRA’s calculation of supply ensures that only those resources that are available to the CAISO in its real-time dispatch (which includes the EIM) are counted.

Fourth, as to demand, the Commission stated that demand for Imbalance Energy should be measures as “the accumulated net differences between scheduled and actual EIM balancing authority area load”.⁵ We explain below how we satisfied this standard by taking precise measurements of actual imbalance demand (i.e. difference between scheduled and actual load) over the course of the historical test year.

³ There can also be price differences due to losses and Greenhouse Gas (GHG) adders. We are able to separate GHG adders from the congestion component of the price, but conservatively assume price separation due to losses is due to congestion.

⁴ *Nevada Power Co.*, 155 FERC ¶ 61,186 at P 26 (2016) (“Rehearing Order”) (“NV Energy MBR EIM Rehearing Order”).

⁵ Rehearing Order at P 26.

Fifth, the Commission required that the relevant product for the study be Imbalance Energy.⁶ We explain below that the product we study is only Imbalance Energy.

Sixth, with regard to imports from outside the EIM-wide area, the Commission required that imports from outside the study area should only be counted if they are physically capable of being dispatched in the EIM.⁷ As we explain below, we replaced an estimate of imports with an hour-by-hour study of actual imports over the study period. We counted only those imports that were actually delivered to the CAISO during the imbalance portion of the market.

Finally, the Commission instructed the Berkshire EIM Participants to study the existence of any binding transmission constraints, as well as the presence of any scheduling limitations. We explain below our extensive study of constraints between these BAAs that supports our conclusion that power flows freely between these BAAs and binding constraints are rare – i.e. there are no submarkets.

IV. SUMMARY OF MARKET POWER STUDY

Based on the analyses discussed below, CRA concludes: (1) that the lack of congestion and price separation in the EIM footprint demonstrates that the EIM should be considered a single market and (2) that the Applicants satisfy the Commission’s horizontal and vertical market power screens in the EIM and therefore should be permitted to participate in the EIM using MBR.

In an order involving APS’ request to use market-based rates in the EIM, the Commission clarified that “a potential EIM participant is permitted to demonstrate that there are no frequently binding transmission constraints that would limit imports into its home balancing authority area (or the balancing authority area where its generation is located) such that the home balancing authority

⁶ *Nevada Power Co.*, 151 FERC ¶ 61,131 at P 202 (2015) (“May 2015 Order”).

⁷ *Nevada Power Co.*, 153 FERC ¶ 61,206 at PP 18-19 (“November 2015 Order”).

area should not be deemed to be an EIM submarket itself, or to be within an EIM submarket.”⁸ The Commission further stated that “[h]aving made such a demonstration, there would be no need for a seller to submit a separate market power analysis for its home balancing authority area.”⁹

In response to this guidance, CRA performed an analysis to check for the presence of submarkets within the EIM Area. We found that there are no frequently occurring constraints that would result in price separation between the CAISO BAA and any of the other three BAAs. Accordingly, an MBR analysis of the 4-BAA EIM Area footprint (as existed in our study period) is sufficient to show that there are no horizontal market power issues for the BHE Companies in the EIM.

Second, the MBR analysis CRA conducted is adapted to capture the unique properties of an energy imbalance market like the EIM. The Commission has specified:

any market power analysis of the EIM should account for the EIM’s specific characteristics in establishing the relevant geographic market and the relevant product market (balancing energy). These characteristics include a specific determination of EIM supply (e.g., generation that is registered, and is both available and dispatchable); EIM demand (e.g., the accumulated net differences between scheduled and actual EIM balancing authority area load); and a measure of import capability between all EIM balancing authority areas, i.e., scheduling limit constraints.¹⁰

Accordingly, the analysis considers the product to be imbalance energy, which is composed of actual load and intermittent generation deviations from scheduled quantities, and the supply to be the residual capacity available for dispatch by the CAISO in the real-time imbalance market. While adapted to the EIM, the analysis still adheres very closely to the frameworks established in Order No. 697, Order No. 816, and related orders.

⁸ *Arizona Public Service*, 156 FERC ¶ 61,148 at P 28 (2016) (APS MBR Order).

⁹ *Id.*

¹⁰ *Nevada Power Co., order on reh’g*, 155 FERC ¶ 61,186 at P 26 (2016) (NV Energy MBR EIM Rehearing Order).

CRA performed the two indicative horizontal market power screens that the Commission requires, namely a pivotal supplier analysis based on the maximum annual demand in the relevant market (“Pivotal Supplier Screen”) and a market share analysis (“Market Share Screen”). The latter was completed on a seasonal basis with the required study period, December 2015 - November 2016 (“Study Period”). As specified in the NV Energy Order,¹¹ CRA considered the relevant market to be the 4-BAA area composed of the CAISO, NV Energy (“NEVP”), PACE, and PacifiCorp-West (“PACW”) BAAs (we refer to this relevant footprint as the “4-BAA EIM Area”). Though the footprint expanded in the fall of 2016, during most of the Study Period the EIM consisted of these four BAAs.

V. DESCRIPTION OF THE BHE COMPANIES

Nevada Power Company and Sierra Pacific Power Company are wholly owned subsidiaries of NV Energy, Inc. NV Energy, Inc. and PacifiCorp are wholly owned subsidiaries of Berkshire Hathaway Energy Company (“BHE”), an Iowa corporation, which is, in turn, a subsidiary of Berkshire Hathaway Inc.

PacifiCorp is an Oregon corporation that also is an indirect wholly owned subsidiary of BHE. PacifiCorp is a vertically integrated public utility that owns electric transmission, distribution, and generation assets. It provides retail electric service to customers in California, Idaho, Oregon, Utah, Washington, and Wyoming, and provides transmission service in nine Western states. PacifiCorp operates in the PACE and PACW BAAs.

Nevada Power is a vertically integrated public utility that provides retail electric service in southern Nevada and makes wholesale sales per Commission-jurisdictional agreements. It, too, owns transmission and distribution assets. Nevada Power operates in the NEVP BAA.

Sierra Pacific is a vertically integrated public utility that serves retail and wholesale customers throughout northern Nevada. Sierra Pacific owns transmission, distribution, and

¹¹ *Nevada Power Co.*, 151 FERC ¶ 61,131 at P 202 (2015) (NV Energy EIM Order).

generation assets, and also provides natural gas service in the Reno/Sparks area of Nevada. Sierra Pacific operates in the NEVP BAA.

NV Energy, Inc. is the holding company of Nevada Power and Sierra Pacific, and is an indirect, wholly owned subsidiary of BHE. Sierra Pacific and Nevada Power jointly dispatch their generating resources according to the terms of a Joint Dispatch Agreement (“JDA”) on file with the Commission. Under this Agreement, the load of Nevada Power and Sierra Pacific is served by the combined generating fleets of both companies, and is dispatched on a least-cost basis.

VI. EIM BACKGROUND

In the EIM, Western BAAs have the opportunity to participate in the CAISO real-time market for imbalance energy as “EIM Entities.” PacifiCorp’s two BAAs joined the EIM in November 2014. NV Energy began participating in the EIM in December 2015. Puget and APS commenced participation in October 2016.

Joining the EIM is an extensive undertaking. To facilitate the CAISO’s security-constrained economic dispatch model, EIM Entities must provide detailed data on their transmission systems, the resources that will bid into the EIM as “EIM Participating Resources,” and the non-participating resources that will serve load in EIM Entity’s BAA but not bid to supply imbalance energy.¹²

While there are a series of activities that take place up to a week in advance of real-time operations, the critical time period for EIM activities begins at 75 minutes (T-75) before the beginning of each trading hour (which in turn begins at the top of each hour). It is at this time that the EIM Participating Resource Scheduling Coordinator submits bids to supply imbalance energy

¹² For example, the CAISO’s Master File requires unit-specific information regarding factors including: (1) fuel type, (2) maximum generation capacity, (3) minimum generation capacity, minimum dispatchable level, (4) minimum on time, (5) maximum on time, (6) minimum off time, (7) maximum startups per day, (8) start-up time, (9) minimum load cost, (10) start-up costs, (11) default energy bid methodology, (12) emission rate, (13) greenhouse gas compliance obligation, (14) ramp rate, (15) heat rate, and (16) forbidden operating regions.

and the EIM Entity Scheduling Coordinator submits an overall Resource Plan.¹³ Resource participation in the EIM is voluntary.¹⁴ There is no must-offer obligation, even for EIM Participating Resources.¹⁵

Third-party transmission customers must submit their own balanced schedules to the EIM Entity by T-57 to enable them to be incorporated into the EIM Entity's revised Resource Plan submitted to the CAISO at T-55.¹⁶ The EIM Entity has until T-40 to make any needed further revisions, at which time its schedule becomes financially binding.¹⁷

The CAISO uses its real-time market to dispatch imbalance energy to meet the difference between real-time demand and generation scheduled in the CAISO's day-ahead market and the EIM Entities' balanced base schedules.¹⁸ The CAISO's real-time market dispatches this imbalance energy on a fifteen-minute and five-minute basis through its fifteen minute unit commitment and five minute dispatch, respectively. Each run of the CAISO's real-time market simultaneously determines the necessary output of dispatchable resources to meet forecasted net load over multiple intervals, not just in the next "financially binding" interval. The subsequent intervals are "advisory" intervals. The CAISO real-time unit commitment process that is used for Fifteen-Minute Market looks ahead up to seven fifteen-minute intervals. The Real-Time dispatch looks ahead up to 14 five-

¹³ As specified in Section 29.34(e)(3) of the CAISO Tariff, a Resource Plan includes: (1) the Base Schedules of the EIM Entities and EIM Participating Resources; (2) energy bid ranges (applicable to EIM Participating Resources only); (3) upward Available Balancing Capacity; (4) downward Available Balancing Capacity; (5) reserves to meet NERC/WECC Contingency Reserves Requirements; and (6) if the EIM Entity Scheduling Coordinator is not relying on the CAISO's demand forecast, a demand forecast.

¹⁴ NV Energy MBR EIM Rehearing Order, 155 FERC ¶ 61,186 at P 13; *see also*, *Nev. Power Co.*, 153 FERC ¶ 61,206 at P 47 (2015) (NV Energy MBR EIM Order) ("the EIM was developed and approved as a voluntary market").

¹⁵ NV Energy MBR EIM Order, 153 FERC ¶ 61,206 at P 48 ("the EIM is a voluntary market, which allows participants to decide which resources they bid into the EIM and which resources they do not").

¹⁶ *See* Attachment P, § 4.2.4.5.2 of the Nevada Power OATT. These schedules can be revised down to T-57.

¹⁷ *See* CAISO Tariff § 29.34(f)(1)(C).

¹⁸ In other words, imbalance energy for the CAISO is based on the difference between day-ahead and real-time actual generation and demand; whereas, imbalances for EIM Entities are based on the differences between the balanced based schedule and actual.

minute intervals.¹⁹ “Dispatch Instructions” produced by the unit commitment and five-minute dispatch processes are communicated to the resource.²⁰

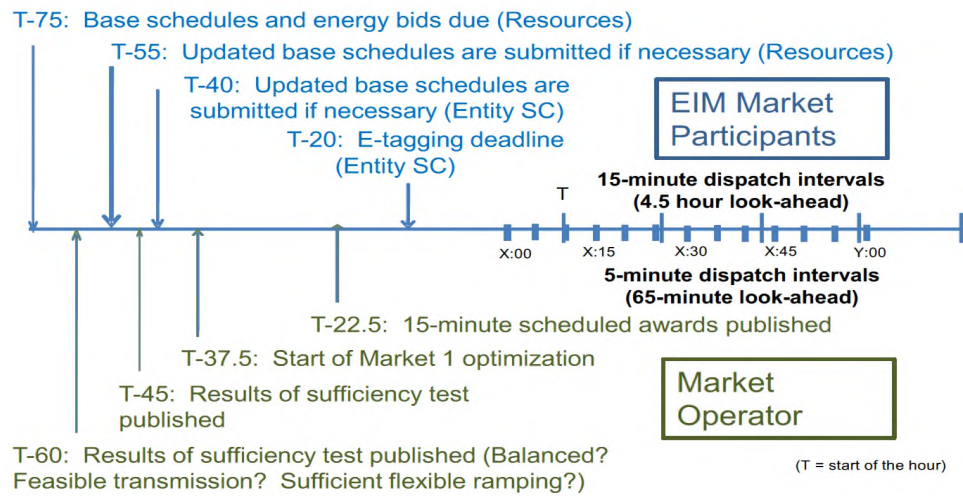
These timelines are summarized in Figure 1.

¹⁹ See CAISO Tariff Section 34.5.1 Real-Time Economic Dispatch, which states:

RTED mode of operation for RTD normally runs every five (5) minutes starting at approximately 7.5 minutes prior to the start of the next Dispatch Interval and produces binding Dispatch Instructions for Energy for the next Dispatch Interval and advisory Dispatch Instructions for multiple future Dispatch Intervals through at least the next Trading Hour. After being reviewed by the CAISO Operator, only binding Dispatch Instructions are communicated for the next Dispatch Interval in accordance with Section 6.3. RTED will produce a Dispatch Interval LMP for each PNode for the Dispatch Interval associated with the binding Dispatch Instructions. The RTED Dispatch target is the middle of the interval between five (5) minutes boundary points. For Variable Energy Resources that forecast with 5 minute granularity, the CAISO will use the 5- minute forecast available prior to the start of the RTD optimization to determine the instructed Energy of the resource. RTD will return the 5-minute forecast value as the instructed Energy for the binding RTD interval provided that the Variable Energy Resource is optimized through the RTED.

²⁰ A real-time “Dispatch Instruction” is an instruction by the CAISO for an action with respect to specific equipment, or to a resource for increasing or decreasing its energy supply to a specified Dispatch Operating Point pertaining to Real-Time operations. The “Dispatch Operating Point” is the expected operating point of a resource that has received a CAISO Dispatch Instruction. The resource is expected to operate at the Dispatch Operating Point after completing the Dispatch Instruction, taking into account any relevant ramp rate and time delays. The “Dispatch Operating Target” is the optimal dispatch of a resource, as calculated by CAISO, based on telemetry and representing a single point on the Dispatch Operating Point trajectory in the middle of the five minute dispatch interval. See CAISO Tariff, Appendix A.

Figure 1: EIM Timeline



The optimization produces feasible schedules and dispatches for all of the intervals included in the market run, and in doing so, takes into account the ramp rates and other operating characteristics of the available resources. Thus, the CAISO may schedule or dispatch resources in a given interval out of economic merit order to the extent necessary to ensure sufficient ramping to provide the least-cost solution over the market horizon.

VII. SUBMARKET ANALYSIS

As noted above, the first task in this EIM market power study was to define the relevant geographic market. Specifically, the Commission had previously raised the possible existence of submarkets within the EIM, specifically with regard to the PACE BAA.²¹

The Commission's precedent is to define submarkets for which analysis is required only when an area is a load pocket that is price-separated from the larger market on a frequent basis.²²

²¹ See NV Energy EIM Order, 151 FERC ¶ 61,131 at n.384.

²² See, e.g., Puget Sound Energy, Inc., 156 FERC ¶ 61,242 at P 21 (2016).

Because practically all of the Non-Affiliate supply for this analysis is located within the CAISO BAA, CRA was mainly concerned with congestion that would prevent flows of power and result in price-separation between the CAISO BAA and any of the other three BHE Companies' BAAs. To check whether price separation occurs and whether submarkets of the 4-BAA EIM Area need to be analyzed separately, CRA performed a congestion analysis that looked to identify if any constraints exist on the flow of power from the CAISO BAA to the NEVP, PACE, and PACW BAAs.

A. Background and Description of Analysis

To measure congestion and the associated price separation between the CAISO and the other EIM BAAs, CRA analyzed the power balance constraint shadow price data²³ in order to determine whether any congestion existed between the CAISO BAA and any of the other three EIM BAAs. We examined each of the two components of the EIM: the Fifteen-Minute Market ("FMM") and the Five-Minute Market ("RTD").

B. Data

Power balance constraint shadow prices are produced by the CAISO for both the FMM and the RTD for each EIM BAA. They are specified with CAISO as the reference point. We reviewed data from December 1, 2015 to November 30, 2016. The data needed for this analysis are the shadow prices of the BAA power balance constraint for the NEVP, PACE, and PACW BAAs, and the EIM greenhouse gas ("GHG") shadow price for the CAISO BAA. The data is at a fifteen-minute granularity for the FMM and at a five-minute granularity for the RTD.

²³ As discussed on pages 4-5, for a given EIM BAA, the shadow price represents the difference between the market price of that EIM BAA and the market price in CAISO. It is a publically-available price on the CAISO OASIS site, and is the same data the CAISO DMM uses for its congestion analysis. If the power balance constraint shadow price is zero, then there is no congestion between the two relevant BAAs and their prices are equal; if the shadow price is negative, then the congestion is into CAISO and the price in the outside BAA is higher than in CAISO; if the shadow price is positive, then the congestion is out of CAISO and the price in the outside BAA is higher than in CAISO.

C. Methodology

This analysis involved looking at the power balance constraint shadow price data between the CAISO and PACW BAAs, the CAISO and NEVP BAAs, and the NEVP and PACE BAAs. The CAISO and PACE BAAs do not have a direct interconnection and there was limited ability to effectuate EIM transfers from the PACW BAA to the PACE BAA, so NEVP BAA presented a more direct path to deliver imbalance energy from the CAISO BAA to the PACE BAA.

Congestion can have physical and financial impacts. Physical congestion occurs when there are lower cost supplies that are physically unable to reach the relevant market due to physical transmission limitations. This is manifested on the power balance constraint by a non-zero value of the shadow price, indicating some degree of price separation. The larger the shadow price, the greater is the price separation between the two BAAs in question. The magnitude of the shadow price is also indicative of the underlying cause of price separation.²⁴ While large price separation is likely driven by physical congestion, smaller price differentials (e.g. 1-5 dollars per MWh) can be caused by transmission losses and/or additional operational constraints instead of physical congestion. For simplicity, we make a conservative assumption and attribute all price separation to physical congestion.

Imports of energy into California and generation of energy within California are subject to the California Cap-and-Trade Program. Energy generated outside of California that is not used to serve load in California is not subject to this program. The generator's GHG compliance obligation is based upon the actual output of that resource. With the introduction of the EIM, the CAISO developed a mechanism to reflect GHG compliance costs within the locational marginal prices. Inside of the CAISO BAA, the energy price includes GHG compliance costs of generation. Outside of the CAISO, if the load was met with generation outside of the CAISO, the energy price does not include GHG compliance costs. When serving load outside of the CAISO, the CAISO's

²⁴ This is a common methodology to assess the price effects of a constraint. See *e.g.*, SPP 2016 State of the Market Report at 2.13.3, Figure 2-80 at p. 96.

optimization only considers the energy bid. When serving load inside the CAISO, the market optimization considers the energy bid plus the GHG compliance cost adder.

The power balance constraint shadow prices contain the effect of the GHG compliance cost. In order to account for the GHG cost, CRA adjusted the power balance constraint shadow price for each interval and for each EIM BAA by subtracting the GHG shadow price from the EIM BAA's power balance constraint shadow price. If the resulting difference was greater than a threshold value of \$0.01, the adjusted power balance constraint shadow price for an interval and for a particular EIM BAA is considered positive.

For a particular EIM BAA, a positive adjusted power balance constraint shadow price indicates that it is more expensive to serve load in the EIM BAA than in the CAISO BAA. A negative adjusted power balance constraint shadow price indicates that it is more expensive to serve load in the CAISO BAA than in the EIM BAA. Thus, a positive adjusted power balance constraint shadow price for an interval and for a particular EIM BAA indicates that there was congestion on the lines from the CAISO BAA to the EIM BAA and, thus, price separation with higher prices in the EIM BAA than in the CAISO BAA.

In the case of the PACE BAA, CRA compared the power balance constraint shadow price in the NEVP BAA and in the PACE BAA. As both are specified with the CAISO BAA as the reference point, we directly subtracted the power balance constraint shadow price in the PACE BAA from the power balance constraint shadow price in the NEVP BAA. A difference greater than the threshold value of \$0.01 for an interval indicates that there was congestion on the lines from the NEVP BAA to the PACE BAA and, thus, price separation with higher prices in the PACE BAA than in the NEVP BAA. The assumptions CRA made in completing this analysis are listed in the Congestion Analysis Workpapers we are submitting along with this filing.

D. Results

Based on the analysis, CRA found that there are no frequently binding constraints that would prevent the flow of power from the CAISO BAA to any of the other three EIM BAAs. This conclusion holds true for both the FMM and the RTD markets. Table 1 presents the results of the analysis. In the FMM, the paths considered are congested between 0.7 percent and 2.4 percent of

the time, depending on the BAA. In the RTD, they are congested anywhere from 0.3 percent to 6.2 percent of the time depending on the BAA. The only interface with price separation occurring more than 2 percent of the time is between CAISO and PACW in the RTD, which experiences price separation in 6.2 percent of the RTD intervals.

Table 1: Results of the Constraint and Submarket Analysis with a \$0.01 Threshold

	FMM			RTD		
	CAISO price separation		NEVP price separation	CAISO price separation		NEVP price separation
BAA	NEVP	PACW	PACE	NEVP	PACW	PACE
Intervals with positive shadow prices	759	839	258	1922	6504	309
Total intervals	35136	35136	35136	105408	105408	105408
% intervals with positive price separation	2.2%	2.4%	0.7%	1.8%	6.2%	0.3%

We also analyzed the effect of the threshold value on the results. For purposes of the Table 1 results, we conservatively assume that any amount of price separation (after adjusting for the effect of the GHG adder) is an indication of congestion. But, this assumption likely overstates the presence of congestion. Price separation in small amounts can easily be caused by non-congestion factors, like transmission losses or any host of other operational constraints. This means that the percentages of intervals with positive price separation in Table 1 most likely include intervals where the magnitude of the price separation was low and the price separation itself was due to factors not related to congestion. In order to identify these low magnitude shadow prices and get a more accurate depiction of when price separation is truly indicative of congestion, we increased the threshold of what we consider a “positive price separation.” Specifically, if we assume that any power balance constraint shadow price (after being adjusted for the effect of GHG cost) greater than \$5 (which is a higher threshold than the \$0.01 in the original results above) indicates congestion, we obtain the results in Table 2 which likely indicate that the CAISO to PACW path in the RTD does not experience frequent congestion.

Table 2: Results of the Constraint and Submarket Analysis with a \$5 Threshold

	FMM			RTD		
	CAISO price separation		NEVP price separation	CAISO price separation		NEVP price separation
BAA	NEVP	PACW	PACE	NEVP	PACW	PACE
Intervals with positive shadow prices	534	437	144	1512	2491	105
Total intervals	35136	35136	35136	105408	105408	105408
% intervals with positive price separation	1.5%	1.2%	0.4%	1.4%	2.4%	0.1%

CRA plotted duration curves of the power balance constraint shadow prices. These figures are available in Exhibit CRA-3 and indicate the percentage of intervals (x-axis) for which the shadow prices (y-axis) are larger than the amount specified by the curve. The shape of the graphs in the figures demonstrates that there are a large number of intervals for which the shadow prices are low or zero (negative shadow prices were not graphed). These low shadow prices are not necessarily caused by any significant congestion on the interties and could be due to things that do not cause price separation at all (e.g., transmission losses).

Prior to the inclusion of NV Energy in the EIM, the Commission was understandably concerned about the absence of a transmission path into the PACE BAA.²⁵ Even with NV Energy's addition, the Commission noted the lack of evidence demonstrating the availability of transmission from the CAISO BAA to the PACE BAA²⁶ and quoted a statement from the Department of Market Monitoring that "found that while approximately 1,500 MW of supply from CAISO "may be available for scheduling into the NV Energy balancing authority area during many hours, the supply of EIM transfers from the CAISO may be limited or even not exist under some circumstances."

²⁵ NV Energy EIM Order, 151 FERC ¶ 61,131 at n.384.

²⁶ NV Energy has 899 MW of transmission capacity for imports from CAISO and 710 MW of transmission capacity to PACE. Notably, APS adds another 2,400 MW of import transmission capacity from CAISO and another 566 MW of transmission capacity to PACE.

Notably, CRA’s study demonstrating the lack of congestion from the CAISO through the NEVP and into the PACE BAA is fully consistent with the Department of Market Monitoring’s more recent analyses. As shown in Figure 2 taken from the Department of Market Monitoring’s “Market Monitoring Update: Addressing Barriers to Market-Based Rate Authority in the EIM; EIM Governing Body Meeting dated November 30, 2016 at P. 9” there has been extremely low levels of congestion on the exports from CAISO.

Figure 2: EIM Transfers and Congestion from Department of Market Monitoring

EIM areas separated from CAISO by congestion only
1-3% of intervals

EIM transfers and congestion (January – October 2016)

EIM area	Net exporter		Net importer		Import congestion from ISO*	
	Frequency	Average MW	Frequency	Average MW	15-minute	5-minute
California ISO	33%	378	67%	-343		
PacifiCorp East	80%	333	20%	-197	2%	2%
PacifiCorp West	55%	110	42%	-126	1%	3%
NV Energy	33%	154	67%	-286	2%	2%
Puget Sound Energy	46%	89	50%	-90	0%	1%
Arizona Public Service	70%	274	30%	-178	0%	0%

VIII. HORIZONTAL MARKET POWER

The Commission uses two indicative screens for its MBR review – the Pivotal Supplier Screen and the Market Share Screen. In this section, CRA gives an overview of the usual structure of the screens used to analyze energy markets (“Traditional MBR Screens”). In subsequent sections, CRA explains how the EIM is different than an energy market, and the approaches used to adapt the Traditional MBR Screens to take into account the specific characteristics of the EIM (“EIM MBR Screens”).

A. Background on Traditional MBR Screens

Both the Pivotal Supplier and the Market Share Screens analyze the Seller's and Non-Affiliates' uncommitted capacity after planned outages, and load and reserve obligations have been subtracted from installed capacity. Table 3 lists the main building blocks of the Screens and the data that is usually used in the case of Traditional MBR Screens.

Table 3: Main Data Elements for Traditional MBR Screens

Data element	Traditional MBR Screens
a. Capacity Adjusted for Purchases and Sales	Full installed or seasonal capacities or performance-derated capacities of all generating resources in the study area
b. Planned Outages	Seasonal planned outages of units at time of the peak load
c. Imports	Minimum of uncommitted capacity in first tier markets and seasonal simultaneous import limits (SILs)
d. Capacity Deduction (Load)	Demand
e. Capacity Deduction (Reserve)	Reserve requirement

Both Traditional MBR Screens use “installed capacity” of owned or controlled generating units as the starting point to determine “uncommitted” capacity. The installed capacity is adjusted for any imports from markets that are first-tier to the market being studied in the Screens. For the Market Share Screen, the installed capacity is also adjusted for any planned outages. Uncommitted capacity is obtained by subtracting native load and reserve obligations.

The Pivotal Supplier Screen “evaluates the potential of a Seller to exercise market power based on uncommitted capacity at the time of the balancing authority area’s annual peak demand.”²⁷ It accomplishes this by assessing whether market demand can be met without the seller in question. The seller is considered to be a pivotal supplier if wholesale load in the relevant geographic region cannot be met in the absence of supply owned by the Seller and its Affiliates.

The Market Share Screen measures, for each season, whether the Seller has a dominant position in the market based on the amount of uncommitted capacity that it owns and/or controls relative to the uncommitted capacity of the entire market.²⁸ If the calculated Seller’s Market Share is less than 20 percent of the Total Seasonal Uncommitted Capacity, the Seller is assumed not to have a dominant position in the market and passes the screen. If the Seller’s Market Share is greater than 20 percent in one or more seasons, the Seller fails the screen and has a rebuttable presumption of market power in the market in question.

B. Adjustments for the EIM MBR Screens

In order to perform the EIM MBR Screens, CRA had to adapt the Commission’s established methodology. We started with the basic elements of the Traditional MBR Screens and applied them to capture the unique properties of the EIM. In contrast to the energy markets, the EIM only applies to true imbalance. Imbalance Energy is a very small percentage of the energy transacted in any given hour. Therefore, the challenge was to adapt the indicative screens (which were designed for the entire energy market) to apply to this very narrow subset of transactions.

²⁷ *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, Order No. 697, FERC Stats. & Regs. ¶ 31,252, at PP 35, *clarified*, 121 FERC ¶ 61,260 (2007), *order on reh’g*, Order No. 697- A, FERC Stats. & Regs. ¶ 31,268, *clarified*, 124 FERC ¶ 61,055, *order on reh’g*, Order No. 697-B, FERC Stats. & Regs. ¶ 31,285 (2008), *order on reh’g*, Order No. 697-C, FERC Stats. & Regs. ¶ 31,291 (2009), *order on reh’g*, Order No. 697-D, FERC Stats. & Regs. ¶ 31,305 (2010), *aff’d sub nom. Mont. Consumer Counsel v. FERC*, 659 F.3d 910 (9th Cir. 2011), *cert. denied*, 133 S. Ct. 26 (2012).

²⁸ Order No. 697, FERC Stats. & Regs. ¶ 31,252 at P 43.

To perform the evaluation, CRA had to determine the demand for imbalance energy in both the CAISO and BHE Companies' BAAs. Then CRA had to identify the pool of uncommitted resources available to the CAISO in real-time to provide the imbalance energy.

1. Determination of the Demand for Imbalance Energy

Unlike in the Traditional MBR Screens, the relevant product in the EIM MBR Screens is not total energy but only Imbalance Energy. The need for Imbalance Energy stems from two sources: the difference in demand for electricity between actual and scheduled ("Imbalance Demand"), and the difference in generation from renewable resources participating in the EIM between actual and scheduled ("Imbalance Renewable Generation").²⁹

CRA believes that in the special case of the EIM, generation from renewable resources participating in the EIM should be treated as negative load rather than grouped under generating capacity. More specifically, any positive difference in renewable generation between actual and scheduled should be treated as a negative difference in load, and vice versa. In this way, we allow for the imbalance in renewable generation and the imbalance in load to offset each other. CRA adopted this approach for two main reasons. First, one of the stated goals of the EIM is to facilitate integration of renewable generation across its footprint.³⁰ CRA takes this to mean that the renewable generation, which is intermittent, is used whenever available and that curtailments of renewable generation are minimized. Furthermore, in Traditional MBR Screens, it is a valid assumption to derate the capacity of some renewable generation resources based on their historical performance. In EIM MBR Screens, on the other hand, the product is Imbalance Energy, which results from differences between the actual and scheduled quantities. Imbalance Demand could either be offset or made larger by Imbalance Renewable Generation. As the relevant product is Imbalance Energy and not energy, Imbalance Renewable Generation could be significant relative to Imbalance

²⁹ This definition of Imbalance Energy is consistent with the way Puget treated Imbalance in its Supplement to Notice of Non-Material Change in Status from July 27, 2016.

³⁰ See, *Regional Coordination in the West: Benefits of PacifiCorp and California ISO Integration* October 2015 section 2.2.4 at p. 24.

Demand. Thus, it was necessary to account for the effect of Imbalance Renewable Generation, on an hourly basis, in calculating total Imbalance Energy in the EIM – instead of merely including renewable generation at its expected capacity as it is typically done in Traditional MBR Screens.

The load values reported in the Traditional MBR Screens, which are used as deductions to the generating capacity, are based on peak hourly demands. Imbalance Energy is inherently a residual product, so CRA defined peak loads in the EIM MBR Screens as the maximum combined amount of deviation created by the Imbalance Demand and Imbalance Renewable Generation.

2. Identification of the Uncommitted Capacity Available to CAISO for Real-Time Dispatch

To calculate uncommitted capacity, Traditional MBR Screens take into account two main categories: generating capacity, or supply, and deductions due to load and reserve obligations, or demand. All types of generating capacity located in the study area, including fossil and renewable capacity, are usually included in the supply. The demand deductions consist of electricity load and reserve requirements that the parties in the study are obligated to serve.

As required by the Commission,³¹ the supply CRA considered in the EIM MBR Screens for the BHE Companies' as EIM Entities are the EIM Participating Resources. EIM Participating Resources include generators that are registered to participate in the EIM, have the appropriate technical capability and telemetry as required by the CAISO, and are capable of supplying imbalance energy.³² For the CAISO, CRA took into account resources that the CAISO designates as “participating units” (“CAISO Participating Units”).³³

³¹ *Nevada Power Company, Sierra Pacific Power Company, and PacifiCorp*. 155 FERC ¶ 61,186 at P26.

³² NV Energy EIM Order, 151 FERC ¶ 61,131 at P 202.

³³ The “Master Control Area Generating Capability List” lists all units in the CAISO Control Area (<https://www.caiso.com/Documents/MasterControlAreaGeneratingCapabilityList.xls>). Only the units that were marked as “Participating Unit” were considered to be CAISO Participating Units.

More specifically, the supply available for CAISO real-time dispatch consists of non-wind and non-solar EIM Participating Resources and CAISO Participating Units (“Non-Renewable Participating Generation.”). As explained above, CRA included intermittent wind and solar EIM Participating Resources and CAISO Participating Units (“Renewable Participating Generation”) on the demand side as negative load.

As in the Traditional MBR Pivotal Supplier Screen, the EIM MBR Pivotal Supplier Screen examined the highest annual energy imbalance. Those imbalances could occur at any time during the year. As an analog to the Traditional MBR Pivotal Supplier Screen, CRA assessed whether EIM Imbalance Energy could be met without generation from the “residual” Non-Renewable Participating Generation owned or controlled by the Seller in the peak periods. By “residual” capacity, CRA refers to capacity that is not committed in the day-ahead or base schedules and, therefore, available for incremental dispatch.³⁴ The Seller would be considered to be a pivotal supplier if the wholesale EIM Imbalance Energy in the relevant geographic market cannot be met in the absence of supply owned by the Seller and its Affiliates.

As in the Traditional MBR Market Share Screen, the EIM MBR Market Share Screen measures, for each season, whether the Seller has a dominant position in the EIM based on the amount of uncommitted capacity that it owns and/or controls relative to the uncommitted capacity of the entire EIM. In order to adapt the EIM MBR Market Share Screen to the Commission’s Energy MBR methodology, CRA needed to look at all of the hours in each season and calculate the uncommitted EIM capacity. To do this, CRA started with installed capacity of the Non-Renewable Participating Generation, adjusted for purchases and sales, added to it an appropriate amount of imports, and deducted (1) commitments from generation schedules for the Non-Renewable Participating Generation, (2) seasonal planned outages for the Non-Renewable Participating Generation, (3) the average EIM Imbalance Energy in the season being studied and (4) reserve requirements.

³⁴ CAISO’s day-ahead market is also called Integrated Forward Market (“IFM”). The three EIM BAAs do not have a day-ahead market, but the equivalent of day-ahead commitments are the base schedules.

C. Application of and Data Assumptions for EIM MBR Screens

This section describes in more detail the assumptions and adjustments CRA made to the MBR Screens in order to capture the characteristics of the EIM. Again, the relevant geographic area is the entire EIM footprint including the CAISO BAA and the three EIM BAAs, namely PACE, PACW, and NEVP. The Study Period is December 2015-November 2016, per the requirements of Order No. 697-A.³⁵ The seasons used for this analysis are December-February (winter), March-May (spring), June-August (summer), and September-November (fall).

Table 4 compares the main data elements for the EIM MBR Screens to the main data elements for the Traditional MBR Screens. First, CRA gives an overview of the application of the EIM MBR Pivotal Supplier and Market Share Screens, and compares this application to the Traditional MBR Screens. CRA then provides more detail about the specific data elements and assumptions we made for the analysis.

³⁵ Order No. 697-A, FERC Stats. & Regs. ¶ 31,268 at Appendix D-1; *see also* APS MBR Order, 156 FERC ¶ 61,148 at P 29.

Table 4: Main Data Elements for Energy and EIM MBR Screens

Data element	Traditional MBR Screens	EIM MBR Screens
a. Capacity Adjusted for Purchases and Sales	Full installed or seasonal capacities or performance-derated capacities of all generating resources in the study area	Residual capacities of Non-Renewable Participating Generation
b. Planned Outages	Seasonal planned outages of units at time of the peak load	Expected planned outages of Non-Renewable Participating Generation
c. Imports	Minimum of uncommitted capacity in first tier markets and seasonal simultaneous import limits (SILs)	Imports incremental to ones scheduled in the day-ahead
d. Capacity Deduction (Load)	Demand	Imbalance Energy (Imbalance Demand + Imbalance Renewable Generation)
e. Capacity Deduction (Reserve)	Reserve requirement	Reserve requirement for Participating Generation

1. Application of EIM MBR Screens

a. Pivotal Supplier Screen

The Pivotal Supplier Screen “evaluates the potential of a seller to exercise market power based on uncommitted capacity at a time of the balancing authority area’s annual peak demand.”³⁶ It accomplishes this by assessing whether market demand can be met without the seller in question. The Seller is considered to be a pivotal supplier if wholesale load in the relevant geographic region cannot be met in the absence of supply owned by the seller and its affiliates.

i. Total Uncommitted Supply

In the Traditional MBR Screen, Total Uncommitted Supply is calculated by adding the total installed capacities – which may be nameplate or seasonal capacities, including generation owned or controlled through contract and firm purchases – and imports, and subtracting reserve

³⁶ Order No. 697, FERC Stats. & Regs. ¶ 31,252 at P 35.

requirements, native load commitments, and long-term firm sales. The Commission specifies that remote generation is included in this amount and the analysis should allocate to it any available simultaneous transmission import capacity.³⁷

In the EIM MBR Screen, Total Uncommitted Supply is obtained by adding the total residual capacities – adjusted for long-term purchases and sales – and imports, and subtracting reserve requirements and Imbalance Energy. As explained further below, only imports that are incremental to the ones that were scheduled in the day-ahead market are included.

ii. Wholesale Load

In the Traditional MBR Screen, Wholesale Load is calculated as the annual peak load, the “needle peak,” less the proxy for native load obligation. This proxy is the average of the daily native peak loads during the month in which the annual peak day occurs.

In the EIM MBR Screen, Wholesale Load is calculated as the maximum hourly value of Imbalance Energy in the Study Period less an amount equal to the average of the daily maximum Imbalance Energy during the month in which the annual maximum occurs.

iii. Net Uncommitted Supply

Net Uncommitted Supply is calculated as the difference between Total Uncommitted Supply and Wholesale Load in both the Traditional and the EIM MBR Screens.

³⁷ See, *e.g.*, Order No 697 at P38.

iv. Seller's Uncommitted Capacity

In the Traditional MBR Screen, Seller's Uncommitted Capacity is calculated by subtracting the Seller's share of the average daily native peak load and of the reserve requirement from the Seller's capacity.

In the EIM MBR Screen, Seller's Uncommitted Capacity is calculated by subtracting the Seller's share of the average daily maximum Imbalance Energy and of the reserve requirement from the seller's residual capacity.

The Seller satisfies the Pivotal Supplier Screen and passes the Screen if its Uncommitted Capacity is less than the Net Uncommitted Supply.³⁸

b. Market Share Screen

The Market Share Screen measures, for each season, whether the Seller has a dominant position in the market based on the amount of uncommitted capacity that it owns and/or controls relative to the uncommitted capacity of the entire market.³⁹

i. Seller and Affiliate Capacity

In the Traditional MBR Screen, Seller and Affiliate Capacity is calculated as the sum of their installed capacity and imports into the region, less planned outages. Installed capacity is adjusted for long-term firm purchases and sales.

In the EIM MBR Screen, Seller and Affiliate Capacity is calculated as the sum of their residual capacity – adjusted for long-term purchases and sales – and incremental imports into the region, less planned outages.

³⁸ Order No. 697, FERC Stats. & Regs. ¶ 31,252 at PP 41-43.

³⁹ *Id.* at P 43.

ii. Capacity Deductions

In the Traditional MBR Screen, Capacity Deductions include deductions for load as well as reserve requirements. The load is calculated using an average peak native load in the season (averaged over all days of the season). The load and the reserves are allocated between Seller and others.

In the EIM MBR Screen, Capacity Deductions include deductions for Imbalance Energy as well as reserve requirements. The Imbalance Energy is obtained as the average of the daily maximums of the hourly Imbalance Energy in the season. The Imbalance Energy and the reserves are allocated between Seller and others.

iii. Seller's Uncommitted Capacity

Seller's Uncommitted Capacity is calculated by subtracting the Seller's share of Capacity Deductions from Seller and Affiliate Capacity, in both the Traditional and the EIM MBR Screens.

iv. Total Competing Supply

Total Competing Supply is calculated by subtracting the Capacity Deductions attributed to Non-Affiliates from the Non-Affiliate Capacity, in both the Traditional and the EIM MBR Screens.

v. Total Seasonal Uncommitted Capacity

Total Seasonal Uncommitted Capacity is the sum of Total Competing Supply and Seller's Uncommitted Capacity, in both the Traditional and the EIM MBR Screens.

vi. Seller's Market Share

Seller's Market Share is calculated as the proportion of Seller's Uncommitted Capacity to Total Seasonal Uncommitted Capacity, in both the Traditional and the EIM MBR Screens.

If the calculated Seller's Market Share is less than 20 percent of Total Seasonal Uncommitted Capacity, the Seller is assumed not to have a dominant position in the market and passes the screen.

If the Seller's Market Share is greater than 20 percent in one or more seasons, the Seller fails the screen and has a rebuttable presumption of market power in the market in question.

2. Data Assumptions for EIM MBR Screens

This section outlines the case-specific assumptions and data sources used for the Screens. The subsections follow the structure of the data elements given in Table 4.

a. Capacity Adjusted for Purchases and Sales

For purposes of a screen analysis, the generating capacity available to satisfy the imbalance load in the EIM market is the residual generating capacity of Non-Renewable Participating Generation that is not committed in the day-ahead.⁴⁰ In order to calculate the non-renewable residual capacity, CRA subtracted the Non-Renewable Participating Generation's awards given by the CAISO's day-ahead integrated forward market or EIM base schedules from the capacities of the Non-Renewable Participating Generation. Under the EIM, the EIM Entities must submit balanced base schedules to the CAISO 55 minutes prior to the operating hour. There is no comparable scheduling requirement for load serving entities in the CAISO BAA. That is why CRA had to use the IFM awards to determine the CAISO portion of the analysis.

The Applicants provided lists of the EIM Participating Resources that they own or control through long-term purchases as well as their location and summer and winter capacities. The capacities for shoulder seasons were assumed to be equal to the average of summer and winter capacities. All of the units listed by NV Energy were EIM Participating Resources during the entire Study Period. PacifiCorp also provided dates on which the units became EIM Participating Resources. CRA included PacifiCorp's units in the analysis as EIM Participating Resources starting on those dates. The Applicants also provided hourly generation base schedules for their EIM Participating Resources. The assumptions we made regarding these base schedules are all detailed in the Analysis Workpapers we are submitting along with this filing.

⁴⁰ NV Energy EIM Order, 151 FERC ¶ 61,131 at P 202.

BHE Companies Supply

Residual capacities of Non-Renewable Participating Generation for the Applicants were calculated for every hour in the Study Period. They were calculated as the difference between the seasonal capacities of the Non-Renewable Participating Generation owned or controlled by the Applicants and the hourly base schedules of those generating units. The residual capacities represent the aggregate amount of capacity available to satisfy the Imbalance Energy.

Competing Supply

We assumed, conservatively, that there is no Non-Affiliate generating capacity located in the NEVP, PACE, or PACW BAAs. Consequently, all Non-Affiliate generating capacity is located in the CAISO BAA. From CAISO, we obtained a list of the CAISO Participating Units. These are units that are participating in the EIM by means of bidding into the CAISO real-time market.⁴¹ There are four units in this list which are owned by Affiliates: Yuma Gas, Solar Star 1 and 2, and Topaz Solar Farms. However, the entire output of all these units is sold to Non-Affiliates and these units are treated as controlled by Non-Affiliates in CRA's analysis.⁴² We assumed that the list of CAISO Participating Units stayed static throughout the Study Period. For non-wind and non-solar units, CRA used the amounts listed as "Net Dependable Capacity" as the capacities of the individual units.

CRA also obtained, from CAISO, the total hourly IFM generation schedules for the CAISO BAA,⁴³ as well as the hourly wind and solar IFM generation schedules for the CAISO BAA.⁴⁴ CRA

⁴¹ "Master Control Area Generating Capability List" (<https://www.caiso.com/Documents/MasterControlAreaGeneratingCapabilityList.xls>) current as of 12/19/2016. Only the units that were marked as "Participating Unit" were considered to be CAISO Participating Units.

⁴² The output of Yuma Gas is sold to San Diego Gas & Electric under a contract that ends in 2024. The output of Solar Star 1 and 2 is sold to Southern California Edison under a contract that ends in 2035. The output of Topaz Solar Farms is sold to Pacific Gas & Electric under a contract that ends in 2039.

⁴³ CAISO OASIS (<http://oasis.caiso.com/>). Select "Energy", "System Load and Resource Schedules", "DAM", "Generation", "Caiso_Totals."

⁴⁴ CAISO OASIS (<http://oasis.caiso.com/>). Select "Energy", "Wind and Solar Summary", "DAM Schedule."

subtracted the wind and solar schedules from the total generation schedules in order to obtain the aggregate hourly IFM schedules for the Non-Affiliate Non-Renewable Participating Generation.

Residual capacities of Non-Renewable Participating Generation for the Non-Affiliates were calculated for every hour in the Study Period as the difference between the sum of the capacities of the Non-Affiliate Non-Renewable Participating Generation and the aggregate hourly IFM schedules of those generating units.

b. Planned outages

Planned outages are treated the same way in the EIM MBR Screens as they are in the Traditional MBR Screens. There is no adjustment, or differencing, needed because the capacity that is unavailable due to planned outages is not scheduled in the IFM or in the EIM base schedules.

A common data source to calculate planned outages in Traditional MBR Screens is FERC Form 714. However, FERC Form 714 gives monthly outages at the time of the peak load. As our analysis does not consider only traditional peak load periods, CRA used the NERC Generating Availability Data System (“GADS”) database to compute the amount of generation on planned outages.⁴⁵ For every category, the GADS database lists the “Equivalent Scheduled Derated Hours” which is a measure obtained by transforming the length of planned and maintenance de-rates into an equivalent length of full capacity derate.⁴⁶ By dividing “Equivalent Scheduled Derated Hours” by “Total Period Hours” CRA obtained the percentage of time a unit is fully derated, or equivalently the percentage of the unit’s capacity that can be expected to be derated at any point in time. CRA assumed that planned outages only occur in the shoulder seasons.

The Energy Velocity database provides a GADS category for every unit. CRA identified the Applicants’ units in the Energy Velocity database and then used the database to map the units to

⁴⁵ The NERC GADS database is available at: <http://www.nerc.com/pa/rapa/gads/pages/default.aspx>

⁴⁶ Generating Availability Data System. Data Reporting Instructions. January 2017. Appendix F p. F-3.

GADS categories. For the Non-Affiliate units, CRA developed a mapping based on the primary mover, the fuel, and the size of the unit.

c. Imports

In Traditional MBR Screens, the total imports into an area are usually limited by the minimum of that area's seasonal SIL values and the total uncommitted capacity in the first-tier markets. In the EIM MBR Screens, CRA set the imports to 0 MW for the Applicants. Neither PacifiCorp nor NV Energy control any EIM Participating Resources outside of their home BAAs (PACE/PACW and NEVP BAAs, respectively).

For Non-Affiliates, CRA estimated the appropriate amount of imports to include in the Screens based on import schedules data provided by the CAISO. We assumed that only the imports into the combined EIM Area that are incremental to the imports scheduled in the IFM should be considered. We obtained day-ahead (IFM) and real-time (RTD) import schedules from CAISO. For every hour, CRA took the difference between the two (real-time minus day-ahead) and assumed that quantity to be the Non-Affiliate imports into the EIM area. This approach is a very granular and accurate way of looking at imports. By looking at exactly how much incremental imported generation was actually brought in over every hour in the Study Period, we do not need to worry about estimations or assumed levels of imports. In fact, this is the most accurate way to account for the actual historical imports into the real-time market. We use one year of historical hourly import data that is relevant to the EIM and we note that these values are much lower than the SILs which the Commission rejected in the Nevada Power order.

d. Capacity Deduction (Load)

Imbalance Energy in the EIM is the combined amount of the hourly deviations of demand (Imbalance Demand) and of renewable generation (Imbalance Renewable Generation).

Imbalance Demand

Imbalance Demand is the difference between the actual demand or load and the expected or scheduled demand or load.

The Applicants provided data on the actual hourly loads and the T-60 load forecasts for their BAAs (the NEVP, PACE, and PACW BAAs).⁴⁷

CRA obtained the actual hourly loads for the CAISO BAA from the CAISO OASIS.⁴⁸ CRA also obtained the hourly IFM schedules for the CAISO BAAs from the CAISO OASIS.⁴⁹ These are the financially binding schedules used for the day-ahead market, and consequently, the ones CRA uses as a reference to calculate imbalance.

CRA estimated the proportions of the load served by the Applicants in the NEVP, PACE, and PACW BAAs based on the share of the actual annual load served by the Applicants in each of those BAAs by the actual annual load for each of the BAAs for the same period. In order to obtain the actual hourly loads and the expected or scheduled hourly loads for the Applicants in the NEVP, PACE, and PACW BAAs, CRA multiplied, respectively, the actual loads and the T-60 load forecasts for the NEVP, PACE, and PACW BAAs by the corresponding estimated proportions of the load served by the Applicants in each of the three BAAs.

CRA obtained the hourly Imbalance Demand for the Applicants by subtracting the expected or scheduled hourly loads for the Applicants in the NEVP, PACE, and PACW BAAs from the actual hourly loads served by the Applicants in the NEVP, PACE, and PACW BAAs.

We calculated the expected hourly loads for Non-Affiliates (third-party customers in the Berkshire Company's BAAs plus the CAISO BAA load) by adding the amount of the expected or scheduled load not assigned to the Applicants in the NEVP, PACE, and PACW BAAs to the hourly IFM load schedules for the CAISO BAA. Similarly, we calculated the actual hourly loads for Non-

⁴⁷ T-60 load forecasts were used in CRA's analysis because the EIM Entities use them to determine their binding generation base schedules. For PACE and PACW, the equivalent of a T-60 load forecast was created from the actual load adjusted for the uninstructed deviations that load incurred across the hour. This adjustment yields an hourly amount that PacifiCorp had scheduled on its units to meet the T-60 load forecast. Since the CAISO requires the EIM Entities to schedule their generation in order to meet the T-60 load forecast within a 1% margin, the actual hourly load adjusted for the uninstructed deviations is equivalent to the hourly T-60 forecast.

⁴⁸ CAISO OASIS (<http://oasis.caiso.com/>). Select "System Demand", "CAISO Demand Forecast", "ACTUAL."

⁴⁹ CAISO OASIS (<http://oasis.caiso.com/>). Select "Energy", "System Load and Resource Schedules", "DAM", "Load", "Caiso_Totals."

Affiliates by adding the amount of the actual load not assigned to the Applicants in the NEVP, PACE, and PACW BAAs to the actual hourly load for the CAISO BAA.

We obtained the hourly Imbalance Demand for Non-Affiliates by subtracting the expected or scheduled hourly loads for Non-Affiliates from the actual hourly loads for Non-Affiliates.

Imbalance Renewable Generation

PacifiCorp provided hourly base schedules and actual generation at the five-minute granularity for their renewable EIM Participating Resources. The assumptions that CRA made regarding the renewable base schedules and actual generation are documented in the Analysis Workpapers submitted along with this filing. PacifiCorp also provided the dates that each of their renewable units became EIM Participating Resources. CRA took these units into account for the analysis only after the date on which they became EIM Participating Resources. NV Energy does not have any renewable EIM Participating Resources. CRA obtained hourly IFM schedules and actual generation for wind and solar CAISO Participating Units from CAISO.⁵⁰

CRA calculated the hourly Imbalance Renewable Generation for the Applicants by subtracting the hourly base schedules for the Renewable Participating Generation owned or controlled by PacifiCorp from their actual generation. Since CRA is assuming that all of the Non-Affiliate EIM-participating generation is located in CAISO, CRA calculated the hourly Imbalance Renewable Generation for Non-Affiliates by subtracting the hourly IFM schedules for wind and solar CAISO Participating Units from their actual generation.

Imbalance Energy

CRA calculated the hourly Imbalance Energy for the Applicants and for Non-Affiliates by subtracting the respective Imbalance Renewable Generation from the Imbalance Demand amounts. Since CRA is effectively considering Imbalance Energy instead of load levels (as we would in

⁵⁰ CAISO OASIS (<http://oasis.caiso.com/>). Select “Energy”, “Wind and Solar Summary”, “DAM Schedule” for IFM schedules. Select “System Demand”, “Wind and Solar Forecast”, “ACTUAL” for actual generation.

Traditional MBR Screens), the “peak load” definition in the context of the EIM MBR Screens changes as well, so that instead of considering the highest load level, CRA defines the “peak load” as the largest amount of Imbalance Energy.

e. Capacity Deduction (Reserve)

Deductions due to reserves are treated in the EIM MBR Screens the same way as they are in the Traditional MBR Screens. CAISO awards the reserves to generators through a co-optimization process that also produces the awards for energy markets, and the EIM BAAs are responsible for meeting the BAAs’ reserve requirements on their own.⁵¹ Therefore, in the Screens, reserve requirements are subtracted from the residual capacity of the Non-Renewable Participating Generation.

The reserve requirements in the Screens are based on the Western Electricity Coordinating Council’s standards. WECC’s reliability standards state that the reserves are based on the greater of the most severe contingency or an amount equal to the sum of three percent of the hourly load and three percent of hourly generation.⁵² Since CRA includes only the EIM Participating Resources and CAISO Participating Units in our analysis, and not all of the generation located in the four BAAs that are comprising the Study Area, CRA calculated the Applicants’ reserve requirements as six percent of the total base scheduled generation (from EIM Participating Resources). For Non-Affiliates, CRA calculated reserve requirements as six percent of the total IFM generation schedules. CRA performed these calculations for every hour in the Study Period.

3. EIM MBR Screens Data Elements on an Hourly Basis

An important distinction between the Traditional MBR Screens and the EIM MBR Screens is that in the Traditional MBR Screens, only the underlying loads are usually expressed on an hourly basis, with the capacities of the units being seasonal. In the case of EIM MBR Screens all the

⁵¹ BPM for the EIM (8/3/2016) p. 44.

⁵² <https://www.wecc.biz/Reliability/BAL-002-WECC-2.pdf>

underlying data elements except for planned outages are given on an hourly basis. The data pieces used to calculate the residual capacities, imports, loads, and reserve requirements all depend on generation, load, or import schedules which vary on an hourly basis.

As mentioned before, as opposed to the Traditional MBR Screens where the demand for the relevant product is determined by the load, the supply is determined by the installed capacities of the units which may be adjusted to reflect historical performance, and the peak loads occur during traditional peak load periods, in the case of the EIM MBR Screens, the demand for Imbalance Energy accounts for the deviations in load and renewable generation, the supply is determined by the residual capacities, and the peak Imbalance Energy demand can occur equally likely during any hour of the day. These factors mean that our analysis needs to be more granular than the analysis performed in the Traditional MBR Screens for several reasons.

First, since the demand for Imbalance Energy is determined by the deviations in load and renewable generation and since the largest Imbalance Energy can occur at any hour, we need to calculate those deviations for every hour during the study period. This is important because compared to demand for energy, the demand for Imbalance Energy is significantly smaller and thus more sensitive to small variations. Therefore, even a slight change in the actual output of several renewable units during one hour can affect the imbalance in renewable generation and make the hour a peak Imbalance Energy hour.

Second, since the peak demand for Imbalance Energy can occur equally likely during any hour of the day, we need to know the amount of residual capacity that is available to serve that imbalance on an hourly level too. This is essential because, as the residual capacity is defined as the difference between installed capacities and day-ahead awards or base schedules, it varies with the time of day. The hourly variations in residual capacity need to be taken into account so that we are able to match the amount of residual capacity available to serve the Imbalance Energy during periods of peak Imbalance Energy demand.

After CRA computed all the hourly data, our EIM MBR Screens analysis proceeds by identifying for every day the hour with the largest total amount of Imbalance Energy. Once we identified the hours with the largest Imbalance Energy, CRA also identified the residual capacities,

imports, and reserve requirements during those same hours. Although we report a single value for each data row in the Pivotal Supplier Screen and for each row and season for the Market Share Screen, these values represent averages for the corresponding data elements during the hours with the largest Imbalance Energy.

D. Results of the EIM MBR Screens

Table 5 summarizes the results of the Pivotal Supplier Screen and the Market Share Screen for the EIM. As shown in the table, the Applicants pass the indicative screens for all markets.

Table 5: Results of the EIM MBR Screens

Market	Pivotal Supplier Screen	Market Share Screen			
	Pass / Fail	Winter	Spring	Summer	Fall
EIM	Pass	13.4%	14.5%	11.2%	13.4%

With respect to the Pivotal Supplier Screen, the Applicants pass the screen in the EIM, as the Seller's Uncommitted Capacity is far below the Net Uncommitted Supply.

With respect to the Market Share Screen, the Applicants' shares of Uncommitted Capacity across the four seasons in the EIM range from 11.2 percent to 14.5 percent, all well below the 20 percent level used by the Commission for satisfying the market share screen and the rebuttable presumption of the lack of market power.

The above results are presented in the standardized reporting format, defined in Order No. 697 and Order No. 816, in Exhibits CRA-4 and CRA-5. All indicative screens are also provided in a live spreadsheet format accompanying this filing, per the requirements of Order No. 816.⁵³

⁵³ The public workpapers submitted along with the current filing contain the Asset Appendix and the indicative screens in a working spreadsheet format as required by Order No. 816.

IX. SIMPLIFIED INTERTIE-BASED ANALYSIS

In July 2016, Puget filed with the Commission a Supplement to their Notice of Non-Material Change in Status from March 2016. Puget presented a simplified analysis of the EIM Imbalance Energy in the Puget BAA and EIM-dedicated transfer capacity connecting the Puget BAA to the rest of the EIM, and with this analysis, provided evidence that the Puget BAA should not be treated as a submarket by the Commission.⁵⁴ CRA applied the methodology Puget used to examine the Imbalance Energy in the NEVP, PACE, and PACW BAAs. Since most of the Non-Affiliate supply is located in the CAISO BAA, CRA tests for available transfers from CAISO and into the three EIM BAAs.

For every hour in the Study Period, we estimate the Imbalance Energy for each BAA according to the same methodology used for estimating Imbalance Energy for the EIM MBR Screens. For the EIM transfer capacities, we used the average total EIM transfer capacities between the BAAs in the 5-minute market for the period from May to October 2016.⁵⁵

Table 6 presents the results of the analysis.⁵⁶ For PACE, “Transfers available from CAISO” were calculated as the minimum of the transfers available from CAISO to NEVP and the transfers available from NEVP to PACE. There are two ways power can get from CAISO to PACW: (1) through the direct transmission path (available transfers: 85 MW), and (2) through NEVP and PACE

⁵⁴ Puget Supplement to Notice of Non-Material Change in Status from July 27, 2016

⁵⁵ Report on Structural Competitiveness of the Energy Imbalance Market, Dec. 6, 2016.
https://www.caiso.com/Documents/Dec6_2016_Department_MarketMonitoring_EIM_StructuralMarketPowerInformationalReport_ER14-1386.pdf

⁵⁶ The row titled “Average imbalance energy” is a simple average of the hourly imbalance energy demand over the Study Period. Since hours with a negative imbalance energy demand are not a concern, we report the average of the positive hourly quantities of imbalance energy in the row “Average positive imbalance energy”. The row titled “95th percentile imbalance energy” gives the quantity such that 95% of the hourly imbalance energy demand values are below it. The row “P(imbalance>transfer)” gives the probability that the hourly imbalance energy demand is greater than the reported transfer based on the data we used (Dec. 2015 – Nov. 2016).

and across the PACE to PACW transmission path (available transfers: 293 MW). To determine the “Transfers available from CAISO” for PACW, we add the available transfers for the two paths.

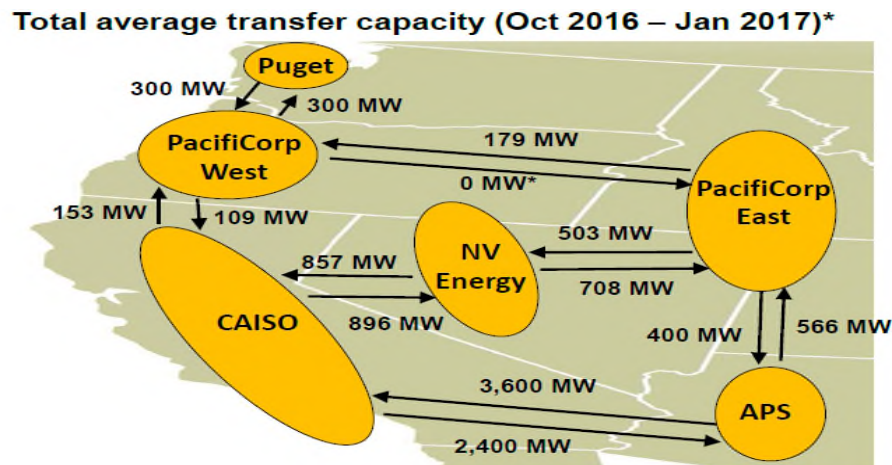
Table 6: Results of the Simplified Analysis

Summary	NEVP	PACE	PACW
Transfers available from CAISO	899	710	378
Average imbalance energy	5	-60	-47
Average positive imbalance energy	142	141	87
95th percentile imbalance energy	319	275	158
P(imbalance>transfer)	0.00%	0.00%	0.02%

X. IMPACT OF CHANGE IN EIM FOOTPRINT

As noted above, CRA’s analysis does not take into account the subsequent expansion of the EIM. APS and Puget joined the EIM in October 2016 bringing additional Non-Affiliate resources. The effect of this would likely be a lower market share for the Applicant and CRA’s analysis is, as a result, likely conservative. The transfer capability for these two entities is shown in Figure 3.

Figure 3: Total Average Transfer Capacities Between CAISO and the EIM Entities (Oct 2016 – Jan 2017)



The additional transfer capability and the expansion of the Non-Affiliate resource pool are procompetitive and further diminish concerns about horizontal market power in the EIM. Moreover, the EIM continues to expand with both FERC-jurisdictional and non-jurisdictional entities. Other utilities that have formally agreed to join the EIM include Portland General Electric on October 1, 2017, Idaho Power Company on April 1, 2018, Seattle City Light and the Balancing Area of Northern California/Sacramento Municipal Utility District on April 1, 2019 and the Salt River Project in April 2020.

XI. VERTICAL MARKET POWER

A. *Transmission*

PacifiCorp and NV Energy own electric transmission facilities. All of the transmission assets owned or controlled by SCE&G are located within the NV, PAC-West and PAC-East BAAs. Through the NV and PacifiCorp Open Access Transmission Tariffs, non-discriminatory transmission service is available over these lines pursuant to rates, terms, and conditions that have been deemed to be just and reasonable and not unduly discriminatory by the Commission. The Commission has found that such circumstances are deemed to mitigate a seller's transmission market power.⁵⁷

Based on the above, we conclude that the BHE Sellers does not have vertical market power with respect to the ability to limit competitive access to markets via control over transmission facilities.

⁵⁷ Order No. 697 at P 21.

B. Barriers to Entry

Affiliates of the BHE Companies own interstate natural gas pipelines, local gas distribution companies, a railroad, and rail lines dedicated to coal transportation to power plants. The Commission has found, however, that the Applicants do not have the ability to exercise vertical market power or erect barriers to entry.⁵⁸

We understand that an affirmative statement on behalf of the Applicants and their affiliates is included in the filing that they have not and will not erect barriers to entry.

Based on the above, we conclude that the BHE Sellers do not have vertical market power with respect to the ability to erect barriers to entry.

XII. CONCLUSION

Based on the analysis described herein, including the submarket and the EIM MBR Screens, CRA concludes that the BHE Companies pass the market power screens in the EIM, and that they therefore do not have horizontal market power under the standards used by the Commission. Also, they do not have vertical market power. Accordingly, they should be allowed to sell at market-based rates in the EIM.

This concludes our Affidavit.

⁵⁸ See *Nevada Power Co.*, 149 FERC ¶ 61,219 at PP 35-36 (2014); see also *MidAmerican Energy Services* at P 21; *MidAmerican Energy Company, et al.*, Docket Nos. ER11-2044-015, *et al.*, Delegated Letter Order (Feb. 4, 2016).

EXHIBITS

Exhibit CRA-1	Resume of Dr. David Hunger
Exhibit CRA-2	Resume of Mr. Edo Macan
Exhibit CRA-3	Congestion Analysis Graphs
Exhibit CRA-4	Pivotal Supplier Screen
Exhibit CRA-5	Market Share Screen

David Hunger

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David Hunger is Vice President with the Energy Practice of CRA. Formerly a senior economist at the Federal Energy Regulatory Commission, Dr. Hunger is an expert in energy market merger analysis and market-based rate matters, as well as energy and capacity market rules in the FERC-regulated Regional Transmission Organizations. For 14 years at the Commission, he took part in or led analyses involving mergers and other corporate transactions, market power in market-based rates cases, affiliate transactions, investigations of market manipulation in electricity and natural gas markets, demand response compensation, compliance cases for capacity and energy market rules in Regional Transmission Organizations (RTOs), merchant transmission, and competition issues in electricity markets. Since leaving the Commission and joining CRA in 2013, he has testified in multiple Commission proceedings involving organized capacity markets administered by RTOs; as well as merger and market-power cases at the state and federal level.

Experience

2013 - Present *Vice President*, Charles River Associates – Energy Practice

1999–2013 Federal Energy Regulatory Commission

1999 - 2000 *Economist*, Office of Economic Policy

2000 - 2002 *Economist*, Office of Markets, Tariffs, and Rates - Division of Corporate Applications

2002 - 2003 *Economist*, Office of Market Oversight and Investigations

2003 – 2007 *Senior Economist*, Office of Energy Market Regulation – West Division

2007-2009 *Supervisory Energy Industry Analyst* - Office of Energy Market Regulation – West Division

2009 – 2010 *Deputy Director*, Office of Energy Market Regulation – West Division

2010 – 2013 *Senior Economist*, Office of Energy Policy and Innovation

Dr. Hunger was the technical lead on FERC Order No. 707 (Affiliate Transactions, 2007); Supplemental Merger Policy Statement (2007); and Order No. 745 (Demand Response

Compensation, 2012). In addition, Dr. Hunger worked on market design issues in each of the FERC-regulated RTOs.

2001–2014	<i>Affiliated Professor</i> , Georgetown University, Graduate Public Policy Institute Classes taught: Microeconomic Theory, Energy Policy, and Master's Thesis advising.
2012 –2014	<i>Adjunct Professor</i> , Penn State University, Energy Business and Finance – Energy and Environmental Economics
2000–2001	<i>Adjunct Assistant Professor of Economics</i> , American University. Classes taught: Principles of Microeconomics and Principles of Macroeconomics
1998–1999	<i>Assistant Professor of Economics</i> , Oglethorpe University. Classes taught: Managerial Economics and International Economics (MBA); Principles of Economics, Intermediate Microeconomics, Macroeconomics, International Economics and Industrial Organization (undergraduate)
1994–1998	<i>Graduate Teaching Fellow</i> , Department of Economics, University of Oregon Classes taught: Econometrics, Industrial Organization, and Principles of Microeconomics

Filed Testimony

BlueWater Gas Storage LLC, Docket No. CP06-368, Notice of Change in Circumstances, Updated Market Power Analysis for Market Based Rates for Gas Storage. July 10, 2017.

South Carolina Electric & Gas Company, Docket No. ER10-2498, Updated Market Power Analysis. June 27, 2017.

British Columbia Power Exchange Corporation, et al v. State of California, ex rel. Bill Lockyer, Attorney General of the State of California, Docket No. EL02-71-057. Answering Testimony on Behalf of Shell Energy North America (US), L.P. February 2, 2017.

Triennial Market Power Update Analysis of FirstEnergy Companies. Docket Nos. ER10-2727-000 *et al.*, before the Federal Energy Regulatory Commission. December 23, 2016.

Antero Resources Corp. v. South Jersey Resources Group, LLC and South Jersey Gas Co. (South Jersey). Civil Action No. 15-cv-00656-MEH. United States District Court for the District of Colorado. Expert Report filed on behalf of South Jersey related to changes in published natural gas index prices. December 2, 2016.

Notice of Inquiry: Modifications to Commission Requirements for Review of Transactions under Section 203 of the Federal Power Act and Market-Based Rate Applications under Section 205 of the Federal Power Act Docket No. RM16-21-000. Comments of Market Power Experts. November 28, 2016.

Application for Authorization under Section 203 of the Federal Power Act for the merger of Great Plains Energy, Inc. and Westar Energy, Inc., Docket No. EC16-146-000. Affidavit in Reply to Staff Deficiency Letter on behalf of Great Plains Energy, Inc. and Westar Energy, Inc. before the Federal Energy Regulatory Commission, November 7, 2016.

Complaint of the New England Power Generators Association, Inc. Docket No. EL16-120-000. Reply Affidavit in Support of Complaint by New England Power Generators Association regarding Peak Energy Rent Adjustment rules in the ISO-NE Forward Capacity Market, before the Federal Energy Regulatory Commission, November 4, 2016.

Complaint of the New England Power Generators Association, Inc. Docket No. EL16-120-000. Affidavit in Support of Complaint by New England Power Generators Association regarding Peak Energy Rent Adjustment rules in the ISO-NE Forward Capacity Market, before the Federal Energy Regulatory Commission, September 30, 2016.

Testimony in the Matter of Southwest Power Pool, Inc. vs. AES Shady Point, LLC. Testimony on behalf of AES Shady Point related to a dispute regarding termination of transmission service before the American Arbitration Association. AAA Case No. 01-15-0004-4670. August 4, 2016.

Application for Authorization under Section 203 of the Federal Power Act for the Merger of Great Plains Energy, Inc. and Westar Energy, Inc. Docket No. EC16-146-000. Testimony of the competitive effects of the merger on behalf of Great Plains Energy, Inc. and Westar Energy, Inc. before the Federal Energy Regulatory Commission, with Edo Macan, July 11, 2016.

Reply Affidavit in Support of Answer of the FirstEnergy Companies. Docket No. EL16-49-000. Affidavit responding to specific proposed minimum offer price rules to existing resources in the PJM capacity market. April 20, 2016.

Affidavit in Support of Protest of the FirstEnergy Companies. Docket No. EL16-49-000. Affidavit related to the proposed imposition of a minimum offer price rule to existing resources in the PJM capacity market. April 11, 2016.

Rebuttal Testimony on Behalf of Wisconsin Electric Power Company. Docket No.:6800-CE-176. Affidavit in Support of Reply Comments by Wisconsin Energy Corporation, before the Public Service Commission of Wisconsin, in the matter of Wisconsin Power and Light Company's proposal to construct the proposed Riverside Energy Center combined-cycle generating unit. December 4, 2015.

Affidavit In Support of the PJM Utilities Coalition Answer to the Indicated Market Participants Motion for Clarification; or in the Alternative, Complaint. Docket No. ER15-623-000. Affidavit in Support of Answer by American Electric Power, FirstEnergy Service Company, The Dayton Power & Light Company, Buckeye Power, Inc. and East Kentucky Electric Cooperative, related to proposed alternative auction clearing mechanism in the Transition Incremental Auctions for the Capacity Performance Product, before the Federal Energy Regulatory Commission. August 17, 2015.

Supplemental Affidavit In Support of the PJM Utilities Coalition Answer to the PJM Deficiency Response. Docket No. ER15-623-001. Affidavit in Support of Comments by American Electric Power, FirstEnergy Service Company, The Dayton Power & Light Company, Buckeye Power, Inc. and East Kentucky Electric Cooperative, related to the PJM Capacity Performance Proposal before the Federal Energy Regulatory Commission. April 24, 2015.

Initial Comments of Indicated PJM Transmission Owners on Remand, Midwest Independent Transmission System Operator, Inc. Docket No. ER10-1791-003. Affidavit in Support of Comments by American Electric Power Service Corporation; The Dayton Power and Light Company; Exelon Corporation; FirstEnergy Service Company; Old Dominion Electric Cooperative; Pepco Holdings, Inc.; PPL Electric Utilities Corporation; Public Service Electric and Gas Company; and Rockland Electric Company, related to export pricing to PJM Interconnection, L.L.C. for Multi-Value Projects by the Midcontinent Independent System Operator, Inc., before the Federal Energy Regulatory Commission. April 22, 2015

Comments and Protest of the PJM Utilities Coalition, PJM Interconnection, L.L.C, Docket No. ER15-852-000. Affidavit in Support of Comments and Protest by American Electric Power, FirstEnergy Service Company, The Dayton Power & Light Company, Buckeye Power, Inc. and East Kentucky Electric Cooperative, related to the PJM RPM Wholesale Load Reduction Proposal before the Federal Energy Regulatory Commission. February, 2015.

Reply Comments of the PJM Utilities Coalition, PJM Interconnection, L.L.C, Docket No. ER15-623-000. Supplemental Affidavit in Support of Reply Comments American Electric Power, FirstEnergy Service Company, The Dayton Power & Light Company, Buckeye Power, Inc. and East Kentucky Electric Cooperative, related to the PJM capacity Performance Proposal before the Federal Energy Regulatory Commission. February, 2015.

Application of Wisconsin Energy Corporation for Approval of a Transaction by which Wisconsin Energy Corporation Would Acquire All of the Outstanding Common Stock of Integrys Energy Group, Inc. Docket No. 9400-YO-100 Affidavit in Support of Reply Comments by Wisconsin Energy Corporation, before the Public Service Commission of Wisconsin. January, 2015.

Comments and Limited Protest of the PJM Utilities Coalition, PJM Interconnection, L.L.C, Docket No. ER15-623-000. Affidavit in Support of Comments and Limited Protest by American Electric Power, FirstEnergy Service Company, The Dayton Power & Light Company, Buckeye Power, Inc. and East Kentucky Electric Cooperative, related to the PJM Capacity Performance Proposal before the Federal Energy Regulatory Commission. January, 2015.

Answer of the New England Power Generators Association, Inc. in FERC Docket No. EL15-25-000. Affidavit in Support of Answer to Comments and Protests in the Complaint by New England Power Generators Association regarding Peak Energy Rent Adjustment rules in the ISO-NE Forward Capacity Market, before the Federal Energy Regulatory Commission, January, 2015.

Application for Authorization under Section 203 of the Federal Power Act for the merger of Wisconsin Energy Corporation and Integrys Energy Group, Inc. Docket No. EC14-126-000. Response to Staff Data Request on behalf of Wisconsin Energy Corporation and Integrys Energy Group, Inc. before the Federal Energy Regulatory Commission. December, 2014. Authorized by the Commission (151 FERC ¶ 61,015) on April 7, 2015.

Complaint of the New England Power Generators Association, Inc. in FERC Docket No. EL15-25-000. Affidavit in Support of Complaint by New England Power Generators Association regarding Peak Energy Rent Adjustment rules in the ISO-NE Forward Capacity Market, before the Federal Energy Regulatory Commission, December, 2014.

Application for Authorization under Section 203 of the Federal Power Act for the merger of Wisconsin Energy Corporation and Integrys Energy Group, Inc. Docket No. EC14-126-000. Testimony of the competitive effects of the merger on behalf of Wisconsin Energy Corporation and Integrys Energy Group, Inc. before the Federal Energy Regulatory Commission, with William H. Hieronymus, August, 2014. Authorized by the Commission (151 FERC ¶ 61,015) on April 7, 2015.

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ISO-New England Inc. and New England Power Pool Participants Committee. Docket No. ER14-1639-000. Affidavit in Support of Brookfield Energy Marketing LP's Answer to the ISO-NE Answer, related to MOPR exemption for renewables in the ISO-NE Forward Capacity Market, before the Federal Energy Regulatory Commission. May, 2014.

Protest of the New England Power Generators Association, Inc. and the Electric Power Supply Association. Docket No. ER14-1639-000. Affidavit in Support of Protest by NEPGA and EPSA regarding Minimum Offer Price Rules exemptions in the ISO-NE Forward Capacity Market, before the Federal Energy Regulatory Commission. April, 2014.

Revisions to the PJM Open Access Transmission Tariff and Reliability Assurance Agreement Among Load Serving Entities in the PJM Region to Limit and Protect Against Speculative Offers Submitted in RPM Auctions. Docket No. ER14-1461-000. Affidavit in Support of Comments by American Electric Power, Duke Energy Ohio, FirstEnergy Corp, Dayton Power & Light, and East Kentucky Electric Cooperative, before the Federal Energy Regulatory Commission. March, 2014.

Southwest Power Pool, Inc. Docket Nos. ER14-1174-000 and EL14-21-000. Affidavit in Support of Comments of the Southwest Power Pool Transmission Owners, related to excess flows from MISO through SPP, before the Federal Energy Regulatory Commission, February, 2014.

Complaint by New England Power Generators Association, Inc. v. ISO-NE, Inc. Respondent. Docket No. EL14-17-000. Affidavit in Support of Complaint by New England Power Generators Association regarding non-price retirement rules in the ISO-NE Forward Capacity Market, before the Federal Energy Regulatory Commission, January, 2014.

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Limited and Sub-Annual DR Resources filing submitted by PJM Interconnection, L.L.C. Docket No. ER14-504-000. Affidavit in support of filing by American Electric Power, Duke Energy Ohio, FirstEnergy Corp, Dayton Power & Light, East Kentucky Electric Cooperative, and PPL Companies before the Federal Energy Regulatory Commission, December, 2013.

Capacity Imports Filing submitted by PJM Interconnection, L.L.C. Docket No. ER14-503-000. Affidavit in support of filing by American Electric Power, Duke Energy Ohio, FirstEnergy Corp., Dayton Power & Light, East Kentucky Electric Cooperative, and PPL Companies before the Federal Energy Regulatory Commission, December, 2013.

Demand Response Sell Offer Plan Filing submitted by PJM Interconnection, L.L.C. Docket No. ER13-2108-000. Affidavit in support of filing by American Electric Power, Duke Energy Ohio, FirstEnergy Corp., and Dayton Power & Light before the Federal Energy Regulatory Commission, December, 2013.

In the Matter of PJM Up-to Congestion Transactions, Federal Energy Regulatory Commission Docket Nos. IN10-5-000 and IN15-3-000, Affidavit on Behalf of Powhatan Energy Fund regarding claims of market manipulation, October 2013.

Reports and Publications

“FERC Clarifies its Methodology for Merger and Market-Based Rates Review”. *Law360*, May, 2016

“Analyzing Gas and Electric Convergence Mergers: A Supply Curve is Worth a Thousand Words.” *Journal of Regulatory Economics*, vol. 24, no. 2, 2003, pp. 161-173

“Final Report on Price Manipulation in Western Markets: Fact-Finding Investigation of Potential Manipulation of Electric and Natural Gas Prices.” Federal Energy Regulatory Commission Staff Report to the US Congress, March 2003.

“Initial Report on Company –Specific Separate Proceedings; Published Natural Gas Price Data; and Enron Trading Strategies: Fact-Finding Investigation of Potential Manipulation of Electric and Natural Gas Prices.” Federal Energy Regulatory Commission Staff Report to the US Congress, August 2002.

“Determining the Competitiveness of Wholesale Electricity Markets: It Starts with Defining the Markets.” In *Markets, Pricing and Deregulation of Utilities*. Michael Crew and Joseph Schuh, eds. Kluwer Academic Publishers, 2002.

“Demand Response in Electricity Markets.” Federal Energy Regulatory Commission Staff Paper, January 2002.

Presentations

The Role of Demand Response in Wholesale Energy, Capacity, and Ancillary Services Markets. IEEE Power and Energy Society Meeting, Boston, MA, July 20, 2016.

FERC Order No. 745 is Here to Stay: The Role of Demand Response in Wholesale Energy, Capacity, and Ancillary Services Markets. Utility Variable-Generation Integration Group, Spring Technical Workshop, Sacramento, CA, April 27, 2016.

Outlook on Capacity Markets: The Road to Clarity and Transparency. Platts Northeast Power and Gas Markets Conference. New York, NY. May 2014.

Demand Response at FERC. EPRI Workshop. Houston, TX. August 12, 2012

“Demand Response Compensation.” Advanced Workshop in Regulation and Competition, Rutgers University Center for Research in Regulated Industries, 21st Annual Western Conference, Monterey, CA, June 2010.

"The Role of Sector-Specific Regulators in Merger Review." American Bar Association 2009 Fall Forum, November 2009.

"Developing a Sustainable Energy Policy." Georgetown Public Policy Institute Policy Conference Washington, DC, February 2007.

"Fixing the Natural Gas Price Indices." US Department of Energy, Electricity Working Group, Washington, DC, March 2005.

"Re-bundling in the Electric Power Industry." Advanced Workshop in Regulation and Competition, Rutgers University Center for Research in Regulated Industries, 23rd Annual Conference, Skytop, PA, May 2004.

"Manipulation of Natural Gas Price Indexes: Causes, Effects and Solutions." Advanced Workshop in Regulation and Competition, Rutgers University Center for Research in Regulated Industries, 22nd Annual Conference, Skytop, PA, May 2003.

"The Role of Economics and Economists at the FERC." Federal Energy Regulatory Commission, Briefing for Indiana University of Pennsylvania, Economics Department, Washington, DC, September 2002.

"Defining Wholesale Electricity Markets." Advanced Workshop in Regulation and Competition, Rutgers University Center for Research in Regulated Industries, 21st Annual Conference, Newport, RI, May 2002.

"Markets, Pricing and Deregulation of Utilities." Rutgers University Research Seminar, Newark, NJ, May 2002.

"How FERC Analyzes Markets." Federal Energy Regulatory Commission, Briefing for Indiana University of Pennsylvania, Economics Department, Washington, DC, October 2001.

"Briefing on Competitive Analysis for the State Development Planning Commission of the People's Republic of China." Federal Energy Regulatory Commission, Washington, DC, May 2001.

"Electric Utility Mergers Involving Generation and Transmission: It Takes Ability and Incentive." Advanced Workshop in Regulation and Competition, Rutgers University Center for Research in Regulated Industries, 20th Annual Conference, Tamiment, PA, May 2001.

"Natural Gas and Electricity Mergers: Vertical Restraints or Vertical Market Power." US Department of Energy, Electricity Working Group, Washington, DC, October 2000.

"Vertical Merger Review at the Federal Energy Regulatory Commission." International Association for Energy Economics, 21st Annual Conference, Philadelphia, PA, September 2000.

"Gas and Electric Convergence Mergers: A Supply Curve is Worth a Thousand Words." Advanced Workshop in Regulation and Competition, Rutgers University Center for Research in Regulated Industries, 19th Annual Conference, Lake George, NY, May 2000.

"Pollution Regulation in a Model of International Trade." Northwest Conference for Environmental Economics, Eugene, OR, May 1999.

"The Adoption of Energy-Saving Technologies in the Electricity Industry." Advanced Workshop in Regulation and Competition, Rutgers University Center for Research in Regulated Industries, 17th Annual Conference, Vergennes, VT, May 1998.

"Entry Decisions and Regulatory Distortions in the Electric Power Industry." Advanced Workshop in Regulation and Competition, Rutgers University Center for Research in Regulated Industries, 16th Annual Conference, Lake George, NY, May 1997.

"Entry of Non-Utility Generators in the Northwest." Pacific Northwest Regional Economic Conference, Spokane, WA, April 1997.

Awards and Associations

Charitable Foundation of the Energy Bar Association – Board Member

Law360 Energy Editorial Advisory Board, 2014

Journal of Regulatory Economics – reviewer

Energy Economics – reviewer

Energy Journal - reviewer

University of Oregon - Outstanding Graduate Teaching Award, 1998

Official Scorekeeper – Oglethorpe University Women's Basketball 1998-1999

Member, Energy Bar Association

Member, International Association for Energy Economics

Georgetown University Graduate Public Policy Institute, Master's Thesis Advising

The Effect of State-Level Funding on Energy Efficiency Outcomes, Annie Downs, 2013.

Diversity of Fuel Sources for Electricity Generation in an Evolving U.S. Power Sector, Janelle G. DiLuccia, 2013.

The Effects of Revenue Decoupling on State-Level Gains in Demand-Side Energy Efficiency, Robert Anders, 2011.

"What Drives Innovation in Renewable Energy Technology? Evidence Based on Patent Count," Jesse McCormick, 2011.

"Renewable Portfolio Standards and the Growth of Wind Power Capacity in the United States," Andrew MacBride, 2008.

"The Effect of State-level Demand-side Management Spending on Aggregate State-level Energy Efficiency," Stephen Caldwell, 2008.

"Assessing the Real World Air Quality Improvements and Resulting Human Health Benefits Of the US Acid Rain Program: A Feasibility Study," David Risley, 2008.

"Public Opinion about Climate Change: the Roles of Risk Perception and Scientific Knowledge in Preventing Passivity," Courtney Brown, 2008.

"Statistical Examination of the Relationship between Return on Equity and Plant Investment for Natural Gas Pipelines," Adam Pollack, 2007.

"Fuel Excise Taxes and Consumer Gasoline Demand: Comparing Average Retail Price Effects and Gasoline Tax Effects," William Sauer, 2007.

"Rate Regulation and Carbon Emissions from US Electric Plants," Michael Pomorski, 2007.

"An Analysis of the Efficacy of US Greenhouse Gas Emissions Reduction Policy," Russell Meyer, 2006.

"Wind Energy Cost Reductions: A Learning Curve Analysis with Evidence from the United States, Germany, Denmark, Spain, and the United Kingdom," Charles Goff, 2006.

"Electricity for the Rural Poor: Limit of Traditional Grid-electricity Services and Implications for Renewable Energy in China," Hayato Kobayashi, 2004.

"How Does Oil Influence Conflict?" Megan Ellinger, 2004.

"Electricity Generation and Fuel Sources: Does Greater Diversity Reduce Price Volatility?" Timothy Herzog, 2004.

Edo Macan

Principal

MS, Electrical Engineering
and Computer Science
MIT

BS, Electrical Engineering
MIT

Principal Edo Macan has twenty years of experience assisting clients with economic and financial issues in the energy and financial markets. His practice has been focused on mergers and acquisitions ("M&A") and quantitative analytics in the energy markets, valuation of physical energy assets, derivatives pricing and energy risk management. Mr. Macan has advised electric utilities, independent power producers, government regulators and institutional investors on a variety of topics such as asset valuation, risk management, derivatives pricing, asset optimization, hedging strategies, demand side management, price forecasting, valuation and integration of renewable resources, energy market structure issues, contract disputes and mergers and acquisitions. Mr. Macan is an expert in development and application of stochastic financial models to model dynamic price behavior of wholesale power prices. Prior to consulting, Mr. Macan was an Associate Director of Corporate Risk Management for Duke Energy in Houston, where he led the power price forecasting group for North America and was directly responsible for Duke's proprietary power prices forecasts.

Mr. Macan holds Masters of Engineering degree in Electrical Engineering and Computer Science and Bachelor of Science degree in Electrical Engineering from Massachusetts Institute of Technology (MIT).

Professional Experience

2013–	<i>Principal</i> , Charles River Associates, Oakland, CA
2011–2013	<i>Managing Director</i> , Coprogram, Oakland, CA
2001–2010	<i>Manager</i> , Analysis Group Inc., San Francisco, CA
2000–2001	<i>Associate Director</i> , Duke Energy, Corporate Risk Management, Houston, TX
1998–2000	<i>Associate</i> , The Brattle Group, Cambridge, MA
1996–1997	<i>Research Associate</i> , MIT Energy Laboratory, Cambridge, MA

Regulatory / Market Structure

- Advised electric utilities, independent power producers and private investors on market-based rate authority applications under Section 205 of the Federal Power Act.
- Led horizontal market power analysis and advised electric utilities and power producers on mergers and acquisitions under Section 203 of the Federal Power Act. Designed and developed Delivered Price Test models under Section 203 of the Federal Power Act.
- Assisted FERC in their investigation on power price manipulation during Western Energy Crisis. Analyzed subpoenaed trading data and estimated the influence of spot electricity prices on forward electricity prices.
- Advised electric utilities and independent power producers on acquisition of generation assets, and provided guidance with contract disputes and negotiations.
- Directed North American fundamentals for Duke Energy. Led power price forecasting and produced proprietary short-term and long-term forecasts for major trading hubs in the US and Canada.
- Evaluated damages arising from the manipulation of natural gas markets on prices paid by retail consumers for a large natural gas consumer in California.
- Advised a large power consumer in MISO on rate negotiations with their power supplier and evaluated client's self-generation options upon contract expiration or early contract termination.

Valuation

- Led team of analysts in a multi-billion dollar valuation in a major power merchant bankruptcy proceeding. Performed stochastic valuation of hundreds of power plants, contracts and financial derivatives in company's asset portfolio.
- Performed independent evaluation of new generation auction for a major utility in Southern California. Analyzed and prioritized generation bids from auction participants and reviewed bid selection.
- Estimated capacity value of a wind farm project for an electric power company in California based on system's effective load carrying capability (ELCC) under both LOLE and EUE reliability measures.
- Assisted large electric utility in Midwest with valuation of their mid-merit peaking generation. Oversaw development of stochastic multivariate Monte Carlo models designed to capture option value from operational flexibility and power/fuel price uncertainty.
- Estimated value of ancillary services provided by hydroelectric generation under alternative pricing rules and conditions.
- Evaluated structured power purchase agreements offered by independent power producers to an electric utility in PJM.
- Evaluated existing market clearing procedures for hydroelectric generation across US focusing on energy and reserve market structures, transmission pricing and congestion management, bidding rules and market clearing procedures.

- Analyzed financial solvency of a large US power producer and examined the reasonability of management's financial forecasts.
- Performed financial valuation of nuclear power plant in Japan. Estimated plant market value, including the option value from early retirement of individual units.

Trading and Risk Management

- Instituted risk management protocols to ensure pricing consistency between assets and trading positions. Recommended offsetting trades to reduce daily VAR on the asset portfolio.
- Estimated VAR associated with providing standard offer of service, under alternative assumptions about terms and conditions of service for large electric utility in ERCOT. Devised risk management strategies and advised senior management during corporate restructuring.
- Assessed the risk/return trade-off of client's proposed fuel management contract with a merchant plant developer in ERCOT.
- Optimized risk adjusted returns by hedging fuel costs for a large power plant developer.
- Developed nodal power pricing algorithms on the 24-bus IEEE transmission test network. Implemented alternative trading strategies to arbitrage nodal price differentials under alternative market rules and regulations.
- Evaluated complex financial securities and derivatives for a large US investment bank, including equity, commodity and fixed-income derivatives, structured credit (CDO/CDS) and asset based securities (ABS/MBS).
- Led analysis of MBS default and loss trends for dozens of trusts issued by a leading US mortgage origination firm.
- Estimated transaction costs associated with portfolio managers' trading activity in a major US mutual fund company.
- Developed methodologies for analyzing market timing transactions by examining years of trading activity across multiple funds.
- Performed financial damages estimation in 10b5 securities fraud cases.
- Analyzed trading activity in mutual funds and assisted attorneys in dismissing all liability claims.
- Developed multivariate trinomial lattice models to evaluate a variety of employee-stock options with American and path-dependent features.
- Advised companies on compliance with FASB reporting regulations for employee stock options.
- Advised major US institution on subprime lending litigation and securities fraud litigation.

Filed Testimony

Triennial Market Power Update Analysis on behalf of FirstEnergy Companies. Docket No. ER10-2727. Affidavit in Support of Market Based Rates Authority under Section 205 of the Federal Power Act before the Federal Energy Regulatory Commission, with David Hunger, December 23, 2016.

Notice of Inquiry: Modifications to Commission Requirements for Review of Transactions under Section 203 of the Federal Power Act and Market-Based Rate Applications under Section 205 of the Federal Power Act Docket No. RM16-21-000. Comments of Market Power Experts. November 28, 2016.

Rebuttal Report on Behalf of Gary W. Richards and Other Class Action Plaintiffs v. Direct Energy Services, LLC, Class Action Complaint No. 3:14-CV-1724 (SRU), U.S. District Court - District of Connecticut, with Seabron Adamson, November 10, 2016.

Application for Authorization under Section 203 of the Federal Power Act for the merger of Great Plains Energy, Inc. and Westar Energy, Inc., Docket No. EC16-146-000. Affidavit in Reply to Staff Deficiency Letter on behalf of Great Plains Energy, Inc. and Westar Energy, Inc. before the Federal Energy Regulatory Commission, with David Hunger, November 7, 2016.

Joint Application of Great Plains Energy Incorporated and Westar Energy, Inc. for Authorization of Disposition of Jurisdictional Assets and Merger. Docket No. EC16-146-000. Testimony on the competitive effects of the merger on behalf of Great Plains Energy, Westar Energy, Inc. before the Federal Energy Regulatory Commission, with David Hunger, July 11, 2016.

Expert Report on Behalf of Gary W. Richards and Other Class Action Plaintiffs v. Direct Energy Services, LLC, Class Action Complaint No. 3:14-CV-1724 (SRU), U.S. District Court - District of Connecticut, with Seabron Adamson, May 27, 2016.

Supplemental Expert Report on Behalf of Lori Sanborn and Other Class Action Plaintiffs v. Viridian Energy, Class Action Complaint No. 3:14-CV-1731 (SRU), U.S. District Court - District of Connecticut, May 16, 2016.

Settlement Expert Report on Behalf of Holly Chandler and Other Class Action Plaintiffs v. Discount Power, Inc., Docket No. X03-HHD-CV14-6055537-S, Complex Litigation Docket at Hartford - Connecticut Superior Court, with Seabron Adamson, May 16, 2016.

Expert Class Certification Report on Behalf of Shane C. Roberts and Other Class Action Plaintiffs v. Verde Energy USA Inc., Docket No. X07HHDCV15-6060160-S, Complex Litigation Docket at Hartford – Connecticut Superior Court, with Seabron Adamson, May 2, 2016.

Expert Report of on Behalf of Lori Sanborn and Other Class Action Plaintiffs v. Viridian Energy, Class Action Complaint No. 3:14-CV-1731 (SRU), U.S. District Court - District of Connecticut, with Seabron Adamson, April 1, 2016.

Publications

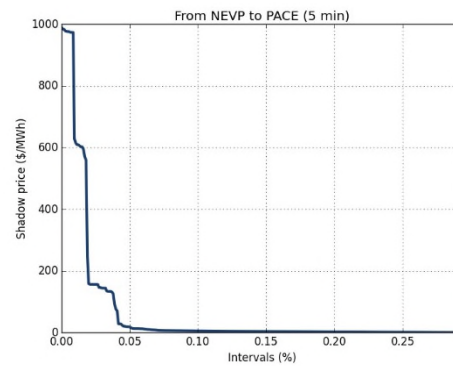
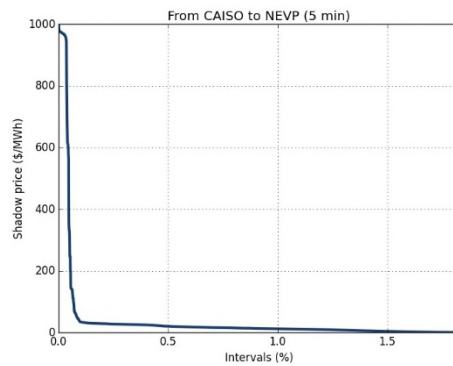
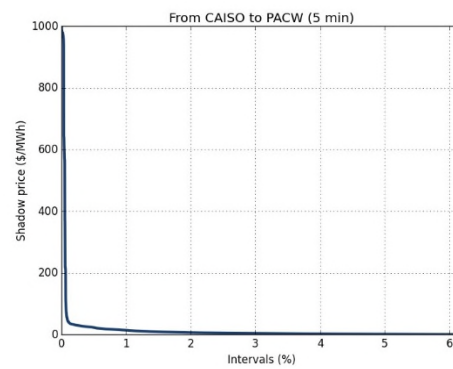
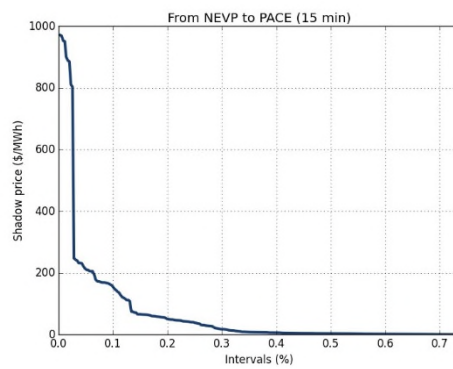
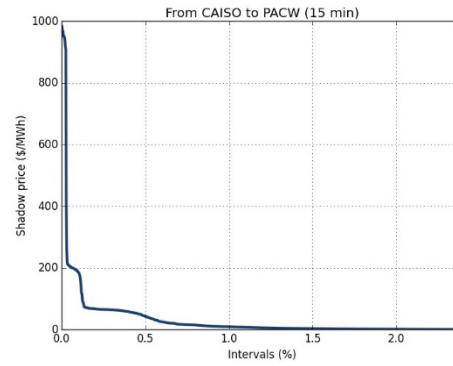
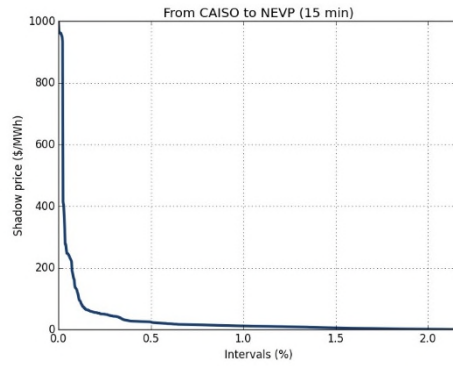
“FERC Clarifies its Methodology for Merger and Market-Based Rates Review” with David Hunger, Law360, May, 2016

“Measuring the Capacity Impacts of Demand Response” with Robert Earle and Edward P. Kahn. Electricity Journal, vol. 22, no. 6, July 2009.

"Implications of Energy and Ancillary Service Market Structure for Hydroelectric Generation - A Survey of U.S. ISOs" With Frank Graves and Dean Murphy. EPRI Report, August 2000.

"Peak-load pricing on the IEEE Reliability Test System" MIT Graduate Thesis, June 1997.

Congestion Analysis Graphs



Pivotal Supplier Analysis

Pivotal Supplier Analysis - Base Case

Applicant -> [Berkshire Hathaway Inc](#)Market -> [CAISO, NEVP, PACE, PACW](#)Data Year -> [December 15 - November 16](#)

Row			Reference
	Generation		
	Seller and Affiliate Non-Renewable Residual Capacity (owned or controlled)		
A	Residual capacity of non-renewable EIM PRs (A' - A'')	6,848	
A'	Installed capacity of non-renewable EIM PRs	13,241	
A''	Capacity of non-renewable EIM PRs committed in base schedules	6,393	
D	Available imports	-	
	Non-Affiliate Non-Renewable Residual Capacity (owned or controlled)		
E	Residual capacity of non-renewable CAISO PUs (E' - E'')	36,318	
E'	Installed capacity of non-renewable CAISO PUs	55,059	
E''	Capacity of non-renewable CAISO PUs committed in IFM schedules	18,741	
H	Available imports	5,454	
I	Study area reserve requirement	1,653	6% * (A''+E''+M1)
J	Amount of Line I Attributable to Seller, if any	408	
K	Total uncommitted supply (A+D+E+H-I-M)	45,762	
	Load		
L	Peak Imbalance Energy (L''-L' + L1-L2)	4,408	
L'	Scheduled load	50,070	
L''	Actual load	51,950	
L1	Scheduled renewable generation	7,376	
L2	Actual renewable generation	4,849	
M	Average Imbalance Energy in peak month (M''-M' + M1-M2)	1,206	
M'	Scheduled load	39,900	
M''	Actual load	40,917	
M1	Scheduled renewable generation	2,410	
M2	Actual renewable generation	2,222	
N	Amount of Line M Attributable to Seller, if any	18	
O	Wholesale Load (L-M)	3,202	
P	Net Uncommitted Supply (K-O)	42,560	
Q	Seller's Uncommitted Capacity (A+D-J-N)	6,422	
R	Result of Pivotal Supplier Screen (Pass if Line Q < Line P) (Fail if Line Q > Line P)	PASS	

Market Share Analysis

Market Share Analysis - Base Case

Applicant -> [Berkshire Hathaway Inc](#)
 Market -> [CAISO, NEVP, PACE, PACW](#)
 Data Year -> [December 15 - November 16](#)

Row		Winter (MW)	Spring (MW)	Summer (MW)	Fall (MW)	Reference
Seller and Affiliate Non-Renewable Residual Capacity (owned, controlled or under LT contract)						
A	Residual capacity of non-renewable EIM PRs (A' - A'')	7,244	8,123	5,765	7,346	
A'	Installed capacity of non-renewable EIM PRs	13,694	13,479	13,107	13,241	
A''	Capacity of non-renewable EIM PRs committed in base schedules	6,450	5,355	7,342	5,895	
D	Seasonal average planned outages of non-renewable EIM PRs	-	92	-	90	
E	Available imports	-	-	-	-	
Capacity Deductions						
F	Average Imbalance Energy (G+H)	1,661	1,430	1,418	1,358	
G	Seller's average imbalance energy (G''-G' + G1-G2)	84	(43)	156	(43)	
G'	Seller's scheduled load	9,290	8,611	10,998	8,945	
G''	Seller's actual load	9,332	8,543	11,125	8,865	
G1	Seller's scheduled renewable generation	394	310	318	470	
G2	Seller's actual renewable generation	352	285	289	432	
H	Non-Affiliate average imbalance energy (H''-H' + H1-H2)	1,577	1,473	1,262	1,401	
H'	Non-Affiliate scheduled load	24,059	25,124	30,748	26,501	
H''	Non-Affiliate actual load	25,251	26,324	32,073	27,592	
H1	Non-Affiliate scheduled renewable generation	1,573	2,674	2,366	1,903	
H2	Non-Affiliate actual renewable generation	1,187	2,401	2,429	1,593	
I	Study reserve requirement (J+K)	1,374	1,280	1,735	1,457	
J	Seller's reserve requirement	411	340	460	382	6% * (G1+A'')
K	Non-Affiliate reserve requirement	964	940	1,276	1,076	6% * (H1+L'')
Non-Affiliate Non-Renewable Residual Capacity (owned, controlled or under LT contract)						
L	Residual Capacity of non-renewable CAISO PUs (L'-L'')	40,567	42,067	36,161	39,036	
L'	Installed capacity of non-renewable CAISO PUs	55,059	55,059	55,059	55,059	
L''	Capacity of non-renewable CAISO PUs committed in IFM schedules	14,491	12,992	18,898	16,023	
O	Seasonal average planned outages of non-renewable CAISO PUs	-	248	-	248	
P	Available imports	5,690	6,024	7,053	8,575	
Supply Calculation						
Q	Total Competing Supply (L+P-H-K-O)	43,716	45,430	40,676	44,886	
R	Seller's Uncommitted Capacity (A+E-D-G-J)	6,749	7,735	5,150	6,917	
S	Total Seasonal Uncommitted Capacity (Q+R)	50,465	53,165	45,826	51,803	
T	Seller's Market Share (R÷S)	13.4%	14.5%	11.2%	13.4%	
	Results (Pass if < 20% and Fail if ≥ 20%)	PASS	PASS	PASS	PASS	

EXHIBIT 2

Affidavit of Kelcey Brown

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Nevada Power Co.	)	Docket No. ER17-_____-000
Sierra Pacific Power Co.	)	Docket No. ER17-_____-000
PacifiCorp	)	Docket No. ER17-_____-000

AFFIDAVIT OF KELCEY BROWN

1. My name is Kelcey Brown. I am employed by PacifiCorp as Director, Market Policy and Analytics. In that role, I am responsible for bidding and scheduling resources in the Energy Imbalance Market (“EIM”), post analytical analysis of market operations, market settlement comparison to actual operations, and to increase the efficiency of PacifiCorp’s generation fleet.

2. The purpose of my affidavit is to support PacifiCorp’s and the NV Energy Companies’ (the “BHE EIM Participants”) application to the Federal Energy Regulatory Commission (“FERC” or the “Commission”) to participate in the EIM at market-based rates. The BHE EIM Participants are Balancing Authorities responsible for their respective Balancing Authority Areas (“BAAs”) and are also referred to as “EIM Entities.” Specifically, I will address two specific issues that the Commission has raised in its prior orders on this issue. First, I will address the concept of physical withholding. I will discuss why, despite the fact that the EIM is a voluntary market, that the obligations of the companies to submit balanced base schedules, maintain reserves, and meet the requirements for flexible ramping capacity required by the California Independent System Operator (“CAISO”) make physical withholding almost an impossibility. Second, I will discuss the BHE EIM Participants’ experience with operating in the EIM under the requirement to bid at cost-based Default Energy Bids (“DEBs”) at all times.

Physical Withholding

3. I will first address the concept of physical withholding. It is my understanding that, in its prior orders on the BHE EIM Participants’ market-based rate authority for the EIM, the Commission expressed a concern that the CAISO’s market power mitigation procedures in its tariff were not, at that time, adequate to address the possibility that the BHE EIM Participants could exercise horizontal market power during times when transmission constraints were binding between the CAISO and the BHE EIM Participants’ BAAs.¹ In response to commenters, the Commission expressed a concern that, when cut off from competing imports, the BHE EIM Participants could withhold capacity from an otherwise marginal unit, and allow a more expensive unit to set a higher market-clearing price.

¹ *Nevada Power Company*, 153 FERC ¶ 61,206 at P 49 (2015), *order on reh’g*, 155 FERC ¶ 61,186 (2016).

4. I understand that the CAISO's Department of Market Monitoring has since concluded that the overall EIM footprint is now "structurally competitive" and that the chances of physical withholding are low.² Nonetheless, there are a number of practical reasons why the theoretical concern of physical withholding could not be effectively implemented. Before addressing that question, I must emphasize that both PacifiCorp and the NV Energy Companies lack the incentive to engage in physical withholding or any other anti-competitive behavior. PacifiCorp and the NV Energy Companies are regulated utilities whose third-party sales revenues are returned to native load customers in retail rates. Both companies are also the largest consumers of imbalance energy in the EIM in their respective BAA markets. Anti-competitive behavior would only serve to raise the prices to our customers without any benefit to our shareholders.

5. As to the practical reasons that physical withholding would be difficult to accomplish even if attempted, there are several reasons why this is so. The EIM includes design elements that ensure EIM Entities have sufficient generation resources available in the real-time market to meet their own reliability requirements and penalizes those participants that come into an hour short of resources. The first EIM design element that ensures resource sufficiency are the under-scheduling and over-scheduling penalties if an EIM Entity does not schedule its resources within one percent of the forecasted demand. The second EIM design element is the capacity test, wherein if an EIM Entity does not balance the forecast exactly with submitted base schedules there must be sufficient EIM participating resource capacity bids into the market to meet both the negative and positive forecast imbalance across the operating hour. The third design element that ensures resource sufficiency is the flexible ramping sufficiency test, which is based on observed forecast uncertainty and variability for each EIM Entity and requires that each EIM Entity bid in enough upward and downward flexibility resource capacity, above its expected demand, to meet its own imbalance needs across the hour. If an EIM Entity fails the capacity test or the flexible ramping sufficiency test, EIM transfers during the next hour are locked to the base schedule and the EIM Entity must meet its own upward and downward flexibility requirements without diversity benefits. In addition, if the EIM Entity was short going into the hour, it risks infeasibility and penalty pricing within its BAA of up to \$1,000/megawatt-hour. The combination of these tests, and the risk that an EIM Entity faces if it is isolated from the market, ensure that each EIM Entity supplies enough capacity to meet its own forecast requirements plus enough additional capacity to meet any flexibility needs that might occur across the hour. These requirements make physical withholding unrealistic because of the amount of capacity beyond the base schedule that has to be set-aside to meet these additional requirements.

6. I should also emphasize that, whatever concerns remain about physical withholding, perpetuating the current DEB-bidding restriction does not adequately address them because physical withholding does not depend on the amount of the bid (and *economic* withholding is addressed by the CAISO market power mitigation procedures). Therefore, granting the BHE EIM Participants market-based rate authority for the EIM does not present any incremental, additional risk of physical withholding.

² Report of the CAISO DMM, "Structural Competitiveness of the Energy Imbalance Market: Analysis of Market Power of the Berkshire Hathaway Entities" at 1 (June 29, 2017) ("[T]he EIM market in the combined BHE area is structurally competitive during almost all intervals due to the amount of competitive supply that could be transferred into the BHE area from the [CA]ISO.").

Default Energy Bid Mitigation

7. Next, I will address PacifiCorp and the NV Energy Companies' experience operating under the DEB-bidding restriction since December 2015. As the Commission knows, it required the BHE EIM Participants to participate in the EIM at their DEBs instead of at market-based rates beginning in December 2015.

8. DEBs are cost-based bids calculated by the CAISO which are used to limit market bids submitted by market participants when local market power mitigation provisions are triggered. Under these procedures, market bids submitted by market participants are limited when congestion occurs on uncompetitive constraints. When bids are mitigated, they are capped at the higher of a competitive market price or the unit's DEB. The CAISO oversees the process of setting DEB levels. Under Section 39.7 of the CAISO Tariff, a resource owner can elect from three options to determine the DEB; although resources in the EIM can use the variable and negotiated rate option. Because of the timing of when DEBs are currently calculated, the CAISO must use publicly available prices for natural gas purchased in the next day gas market when calculating DEBs for gas-fired units. DEBs include a 10 percent adder.

9. PacifiCorp and the NV Energy Companies have now had over a year and half of experience with the DEB-bidding restriction. There are several operational concerns with this restriction that I outline here to emphasize that keeping this restriction in place unnecessarily carries with it certain risk to the companies and their customers through unrecovered costs.

10. First, the DEB is generated by the CAISO, not by the companies themselves. The CAISO estimates the DEB utilizing inputs such as the unit heat rate and the fuel region's estimated delivered gas price. The CAISO uses an average of next day gas commodity prices for calculating an average of four published indices. If fundamentals or risks change after the next day markets, buyers and sellers of gas will likely trade at different prices after the next trading day concludes. This, by its nature, introduces the possibility that the CAISO calculation may not precisely mirror the companies' actual costs hour-to-hour.

11. Second, PacifiCorp's hydro resources have unique operating characteristics that require it to manage a multitude of operating constraints, such as flow requirements, fish passage, flood control and other environmental and recreational requirements. These requirements limit the amount of energy that can be used in the summer period due to lower inflows into the reservoir. PacifiCorp schedules its resources for the operating day with a limited amount of energy flexibility, however, due to the DEB constraint, it cannot communicate the value of the limited energy to the market. PacifiCorp's hydro resource DEB calculation utilizes the Day-Ahead Mid-Columbia trading hub index price as the representative cost for the resource. Typically, the Pacific Northwest is a region that has peaking demand in the winter and a relatively mild summer, which means that power prices in the region are generally lower than in the Western region of the United States, or more specifically, the Desert Southwest. During summer periods when power prices are high in the California market, the DEB price of PacifiCorp's hydro resource is relatively low and can cause the unit to be dispatched by the market early in the day, removing the capability to operate the resource as scheduled to meet PacifiCorp's retail load

across the more expensive peak time of the day. In order to meet its flexibility and capacity requirements, PacifiCorp must show its hydro resources as available to the market. If the hydro unit is dispatched early in the day and exhausts the available water, PacifiCorp must replace the energy in the real-time market at a premium to the day-ahead price. When this occurs, PacifiCorp must make the decision to remove the resource from the market to preserve the water to serve its own load as scheduled on a day-ahead basis, risking penalty pricing in the EIM as well as restricted market activities, or, it must allow the unit to be used for energy in the market and realize financial losses on the replacement energy it must then purchase in the bilateral market. Being able to bid at market-based rates would provide the flexibility to ensure that hydro resources are optimized.

12. Further, the current bidding restriction negatively impacts the ability of the BHE EIM Participants to reflect intra-day changes in gas prices through market bids. As described above in paragraph 8, the CAISO's calculation of DEBs utilizes publicly available prices for gas purchases in the next day gas market. Timing differences result in price variations between those next day gas prices and the gas prices realized in the intra-day market. The current bidding restrictions do not enable the BHE EIM Participants to inform the EIM market operator when upward changes to intra-day gas prices may warrant bid price adjustments which exceed the CAISO's DEB calculation. At present, less desirable alternatives include restricting bid ranges to avoid unrecovered costs from awarded bids priced below anticipated costs.

13. This concludes my affidavit.

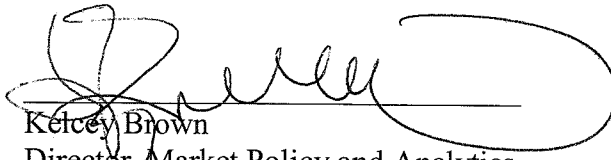
Dated: August 31, 2017.

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Nevada Power Co.	)	Docket No. ER17-_____ -000
Sierra Pacific Power Co.	)	Docket No. ER17-_____ -000
PacifiCorp	)	Docket No. ER17-_____ -000

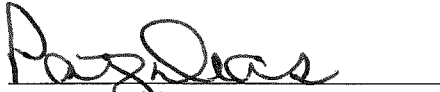
VERIFICATION OF KELCEY BROWN

I, Kelcey Brown, being duly sworn, depose, and state that I am the witness identified in the foregoing prepared affidavit, and that the statements of fact in the affidavit are true and accurate, to the best of my knowledge, information, and belief.



Kelcey Brown
Director, Market Policy and Analytics
PacifiCorp

Subscribed and Sworn to before me
On this 29th day of August, 2017



Notary Public

My commission expires: March 12, 2019

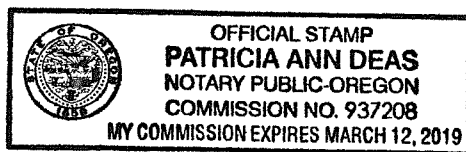


EXHIBIT 3

DMM BHE Report (June 29, 2017)

California ISO

Structural competitiveness of the energy imbalance market:

Analysis of market power of the Berkshire Hathaway entities

June 29, 2017

Prepared by: Department of Market Monitoring

TABLE OF CONTENTS

1	Overview	1
2	Background.....	3
2.1	Energy imbalance market	3
2.2	Demand for imbalance energy	4
3	Supply and demand in the energy imbalance market	7
3.1.1	<i>Demand for imbalance energy.....</i>	<i>7</i>
3.2	Competitive supply of imbalance energy	10
4	Structural market competitiveness	11
4.1	Pivotal supplier test	11
4.2	Market separation due to congestion	14
4.3	Energy bid mitigation.....	14
5	Conclusion	15

1 Overview

FERC's November 19, 2015, Order found that the market power analyses submitted by PacifiCorp and NV Energy (referred to collectively in this report as Berkshire Hathaway entities) failed to demonstrate a lack of market power in the energy imbalance market (EIM).¹ The Commission therefore imposed special limitations on the Berkshire Hathaway entities (BHE), including a requirement that all bids submitted by BHE be at or below each unit's default energy bid. These default energy bids are cost-based bids calculated by the ISO that are designed to only be used when the ISO's automated procedures determine that units may have market power.

In July 2016, DMM completed its third report on the structural market competitiveness in the PacifiCorp balancing authority areas (BAAs).² DMM's July 2016 report provided analysis showing that the frequency of potential structural market power in the PacifiCorp areas had dramatically decreased with the additional transfer capacity that became available between the energy imbalance market areas and the ISO when NV Energy joined the energy imbalance market in December 2015. This structural competitiveness mitigates the potential for the exercise of market power through both economic and physical withholding during almost all intervals.

This report provides additional analysis of the structural competitiveness of the energy imbalance market. This report focuses on the competitiveness of the combination of all three BHE balancing areas: PacifiCorp East, PacifiCorp West, and NV Energy. We describe a method to measure both demand and competitive supply in the energy imbalance market and to then test for structural market power based on these data. With this approach, the demand for real-time imbalance energy is aggregated across PacifiCorp East, PacifiCorp West, and NV Energy BAAs. This aggregated imbalance demand for these BHE areas is then compared to the amount of competitive supply that could be transferred into these BAAs from the ISO.

The report presents results of this pivotal supplier test applied to the BHE balancing areas in the energy imbalance market. Results of this analysis provide further evidence of the structural competitiveness of the energy imbalance market, including the three BHE BAAs. Our conclusion is that the EIM market in the combined BHE area is structurally competitive during almost all intervals due to the amount of competitive supply that could be transferred into the BHE area from the ISO. As additional BAAs that are not affiliated with BHE join EIM, this additional transfer capacity and diversity of ownership should further increase the pool of competitive supply and make the EIM more competitive.

During the relatively small number of intervals when BHE may be pivotal and competitive supply from the ISO into any of the BHE BAAs may be limited by congestion, this potential structural market power is mitigated by the ISO's real-time bid mitigation procedures. When these procedures are triggered by

¹ *Order on Proposed Market-Based Tariff Changes*, November 19, 2015, 153 FERC 61,206, ER15-2281-000: <https://www.ferc.gov/whats-new/comm-meet/2015/111915/E-5.pdf>.

² *Report on Structural Competitiveness of Energy Imbalance Market*, Department of Market Monitoring, July 7, 2016: http://www.caiso.com/Documents/Jul8_2016_DepartmentMarketMonitoring_EIM_StructuralMarketPowerInformationalReport_ER14-1386.pdf.

congestion in the real-time market, bids of all supply within a BAA that is separated from the ISO are automatically subject to cost-based bid limits.

The ISO implemented enhancements to these bid mitigation procedures in the 15-minute market in Q3 2016 and in the 5-minute market in Q2 2017.³ With these enhancements, any potential market power can be effectively mitigated by these automated procedures. DMM will provide analysis on the effectiveness of these procedures in separate future reports.

³ *2016 Annual Report on Market Issue and Performance*, Department of Market Monitoring, May 2017. pp. 20, 253-255, <http://www.caiso.com/Documents/2016AnnualReportonMarketIssuesandPerformance.pdf>

2 Background

This section describes a method for measuring imbalance demand and competitive supply in the EIM. In this analysis, the three BAAs corresponding to the Berkshire Hathaway entities (PacifiCorp West, PacifiCorp East and NV Energy) are treated as a single affiliated group for purposes of assessing their potential market power. In this report these entities are referred to collectively as the Berkshire Hathaway entities (BHE). The analysis in this report evaluates the combination of the three BHE areas as a single area, and assesses the competitiveness of this area based on the amount of competitive supply available to be transferred into this area in the EIM from the broader ISO footprint.

2.1 Energy imbalance market

In the California ISO area, the majority of demand is met in the day ahead market. The ISO's real time markets serve primarily to adjust and optimize unit commitments and dispatches in response to changes in system and market conditions and information. In the EIM, almost all system load is served by resources identified in the base schedules of the EIM entities in each BAA. These base schedules are not determined by the automated market systems of the ISO and are not settled by the ISO or paid the EIM prices. The EIM is a real time market start from the base schedules for these BAAs just as it starts from the day ahead awards for the ISO, and then adjusts and optimizes to best meet the imbalance needs of the aggregate EIM area.

In the EIM entity areas, only a small portion of energy produced and consumed is settled by the ISO and paid based on EIM prices. Generating resources that receive or pay the EIM price are scheduled by the EIM entity. The only generation settled on EIM prices is the incremental amount scheduled in the EIM relative to each resource's base schedule. If market power is exercised in EIM, it is exercised on those EIM imbalance quantities. Any measure of competition or market power should be centered on those quantities as the measures of supply and demand.

For a seller to have market power in the EIM, some kind of barrier must limit supply from new or outside (third-party) entities. The limited nature of electric transmission can create potential market power in some regions. Any area that can be isolated by limited transmission can be subject to high prices and the effects of uncompetitive behavior if a single seller controls enough generation in the area behind the constraint.

The EIM transfers allow competitively priced sources of power to flow between BAAs, providing access to the BAA for competitive resources from outside areas. The limits of the transfers cap the amount of competitive supply that can be offered in from outside the BAA. If the imbalance demand is greater than the transfer limits, some supply from within the BAA is necessary to meet imbalance demand.

A market is not structurally competitive if a single producer can determine market outcomes. In a structurally competitive market, demand could be met without supply from that single producer. If demand cannot be met without that key producer, that producer is said to be *pivotal*. They can effectively dictate the market price. A *pivotal supplier* test compares demand to competitive supply in order to determine if the key supplier is pivotal. Competitive supply used in the pivotal supplier test consists of supply that can reach the market but is not controlled by the key supplier.

In most areas of the energy imbalance market, this almost always means that the additional imbalance needs that cannot be met by transfers from other areas would have to be met by the EIM entity's generation. In an interval where the imbalance demand is greater than the transfer limits, the EIM entity could theoretically set prices up to the \$1,000 bid cap, knowing that they are pivotal and at least one of their resources would need to be dispatched to meet imbalance energy demand. In such intervals, the EIM entity could determine market outcomes and set market prices at extremely high levels in the absence of any special market power mitigation provisions.

2.2 Demand for imbalance energy

The relevant demand for each portion of the multi settlement ISO markets involves the sum of *changes* between two market solutions. In the ISO, the 15-minute market demand is equal to (1) the sum of all generation in the 15-minute market *minus* (2) the sum of all generation in the day-ahead market. This represents the incremental energy dispatched by the 15-minute market. Using the changes to generation to quantify imbalance energy demand accurately captures the quantity of imbalance energy dispatched by the market. Using the load forecast in each market can underestimate or overestimate the actual market demand due to possible changes in self schedules, renewable output, resource outages, and other factors.

In the EIM, entities do not participate in the day-ahead market, but instead submit base schedules that are treated very much like day-ahead market schedules in the ISO. For each EIM BAA, the quantity demanded in the 15-minute EIM market is equal to changes made by the market between base schedules and the final 15-minute schedules.

Analyzing market power in the EIM requires measuring supply and demand in the EIM. Exercising market power involves changing prices, so for this analysis we are able to leave out the changes to generation in the EIM BAAs that cannot have any impact on price. Since only changes made by the market software can set price, non-participating resources and self-scheduled resources that have no bids in the market do not need to be counted when measuring demand for market power evaluation.

When a resource has a self-schedule and has economic bids above the self-schedule, any dispatch into the economic bid range will be part of the market demand. Below we present a mathematical representation of this approach, using the following variables:

$E_{15,A}$ 15-minute market demand in BAA A

$E_{5,A}$ 5-minute market demand in BAA A

$Dispatch_{15,A}$ Total 15-minute schedules within BAA A

$Dispatch_{5,A}$ Total 5-minute schedules within BAA A

$schedule_{B,A}$ total base schedule for BAA A

$schedule_{I,A}$ total IFM schedule for BAA A

$gen_{h,p}$ output from economically bid participating resources for market h

For a given EIM BAA A, 15-minute demand is:

$$E_{15,A} = \sum Dispatch_{15,A} - \sum schedule_{B,A}$$

This demand includes changes to generation schedules as well as net energy transfers out of each BAA through the EIM since transfers into and out of each BAA can be adjusted by the EIM dispatch as part of the 15-minute EIM. Mathematically, the two pieces of demand can be broken down to:

$$Dispatch_{15,A} = \sum_{p,np \in A} (gen_{15,p}) + in\ transfers_{15,A} + out\ transfers_{15,A}$$

$$Schedule_{B,A} = \sum_{p,np \in A} (gen_{B,p}) + in\ transfers_{B,A} + out\ transfers_{B,A}$$

The ISO differs from EIM BAAs because we consider the day-ahead schedule instead of the base schedule as the starting point. Because 15-minute intertie transactions into and out of the ISO can be adjusted by the real time market, these transactions area also included in the analysis as imports and exports:

$$E_{15,ISO} = \sum Dispatch_{15,ISO} - \sum schedule_{I,ISO}$$

$$Dispatch_{15,ISO} = \sum_{p \in ISO} (gen_p) + in\ transfers_{15,ISO} + out\ transfers_{15,ISO} + imports_{15,ISO} + exports_{15,ISO}$$

$$Schedule_{I,ISO} = \sum_{p \in ISO} (gen_p) + imports_{I,ISO} + exports_{I,ISO}$$

Total demand for the 15-minute EIM is the sum of the EIM demand in the ISO and in each of the other BAAs participating in EIM:

$$E_{15} = E_{15,ISO} + \sum_{A \in EIM} E_{15,A}$$

In the 5-minute market, imbalance demand is the difference between 5-minute dispatches and 15-minute dispatches. For the 5-minute market, all EIM BAAs and the ISO have the same formulation.

$$E_{5,A} = \sum Dispatch_{5,A} - \sum Dispatch_{15,A}$$

$$Dispatch_{5,A} = \sum_{p,np \in A} (gen_{5,p}) + in\ transfers_{5,A} + out\ transfers_{5,A}$$

$$E_5 = E_{5,ISO} + \sum_{A \in EIM} E_{5,A}$$

3 Supply and demand in the energy imbalance market

For this report, DMM compiled the data described above for the period from December 2015 through September 2016. During this period, all three BHE balancing areas were EIM participants, and there were no other EIM BAAs outside of the ISO BAA. This allows us to keep a consistent 10-month data set in which the three BHE areas account for the total demand for imbalance energy in the EIM outside of the ISO.

3.1.1 Demand for imbalance energy

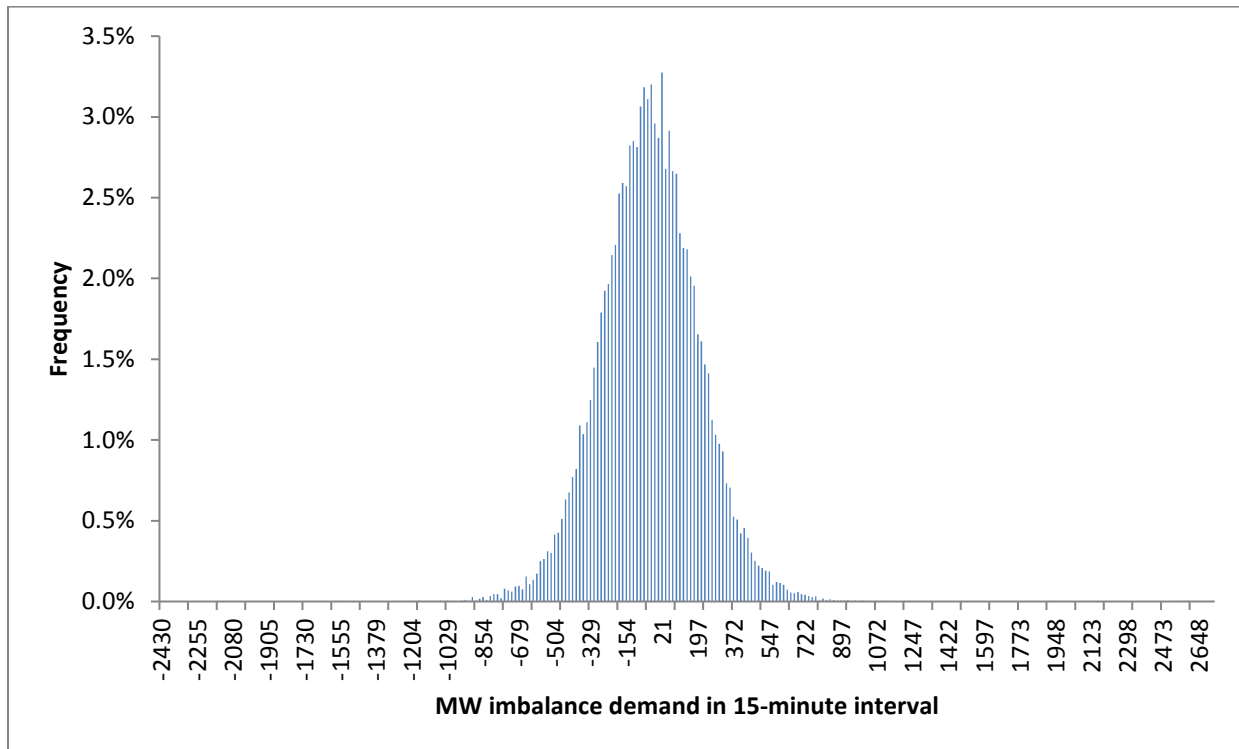
Figures 1 and 3 show the distribution of the demand for imbalance energy in the 15-minute and 5-minute markets in the combined BHE areas over this 10 month period (in MW). Figure 2 and Figure 4 highlight the distribution of imbalance energy demand in the 15-minute and 5-minute markets over this 10 month as a percentage of total load in the combined BHE area. Table 1 and Table 2 provide summary statistics for these data.

As seen in Figures 1 and 3, demand for imbalance energy in the EIM on a 15-minute and 5-minute basis are roughly normally distributed. Imbalance demand in the 15-minute market averaged -46 MW per interval with a median value of -48 MW (see Table 1). The close values for the average and median suggest a symmetric distribution. Base schedules exceeded 15-minute schedules (indicating a net negative imbalance demand) on average and in more than half the intervals. Figure 2 shows that imbalance demand in the 5-minute market is slightly more skewed in the positive direction than in the 15-minute market.

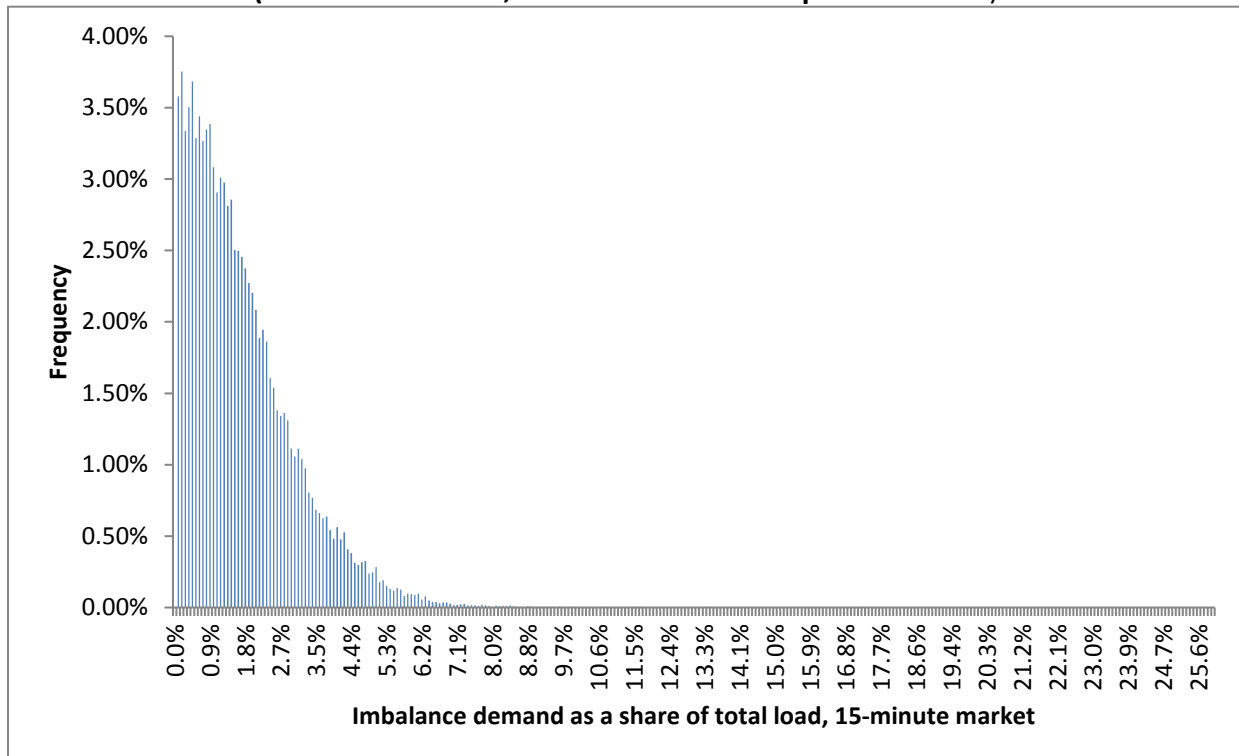
As shown in Table 1, the demand for imbalance energy was positive during about 42 percent of 15-minute intervals. During intervals with positive imbalance demand, the average demand was about 176 MW.⁴ Table 2 shows that in about 97 percent of 15-minute intervals, imbalance demand was less than 5 percent in absolute value of total demand. Median imbalance demand as a share of total load was about 1.3 percent in the 15-minute market.

⁴ In a few intervals, imbalance demand in the 15-minute market was much larger than average, and even approached as much as 25 percent of total load. DMM's review of these extreme values indicate we have calculated this correctly according to ISO data. In some cases, systems issues may have prevented the ISO from receiving accurate data from the EIM entities. Whatever the cause, it is clear that even with these intervals in the dataset the instances of high levels of imbalance demand are extremely rare.

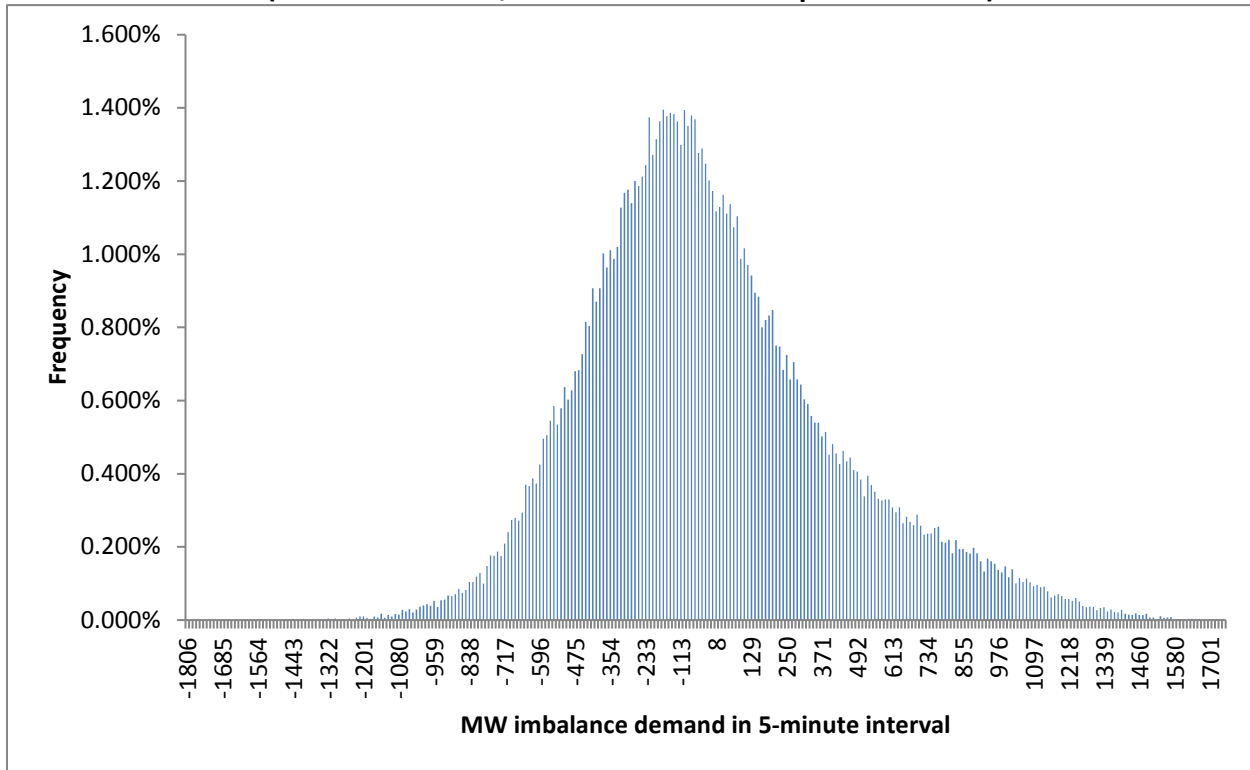
**Figure 1: Demand for imbalance energy for the combined BHE areas
(15-minute market, December 2015 to September 2016)**



**Figure 2. Imbalance energy demand compared to total load for the combined BHE areas
(15-minute market, December 2015 to September 2016)**



**Figure 3: Demand for imbalance energy for the combined BHE areas
(5-minute market, December 2015 to September 2016)**



**Figure 4: Imbalance energy demand compared to total load for the combined BHE areas
(5-minute market, December 2015 to September 2016)**

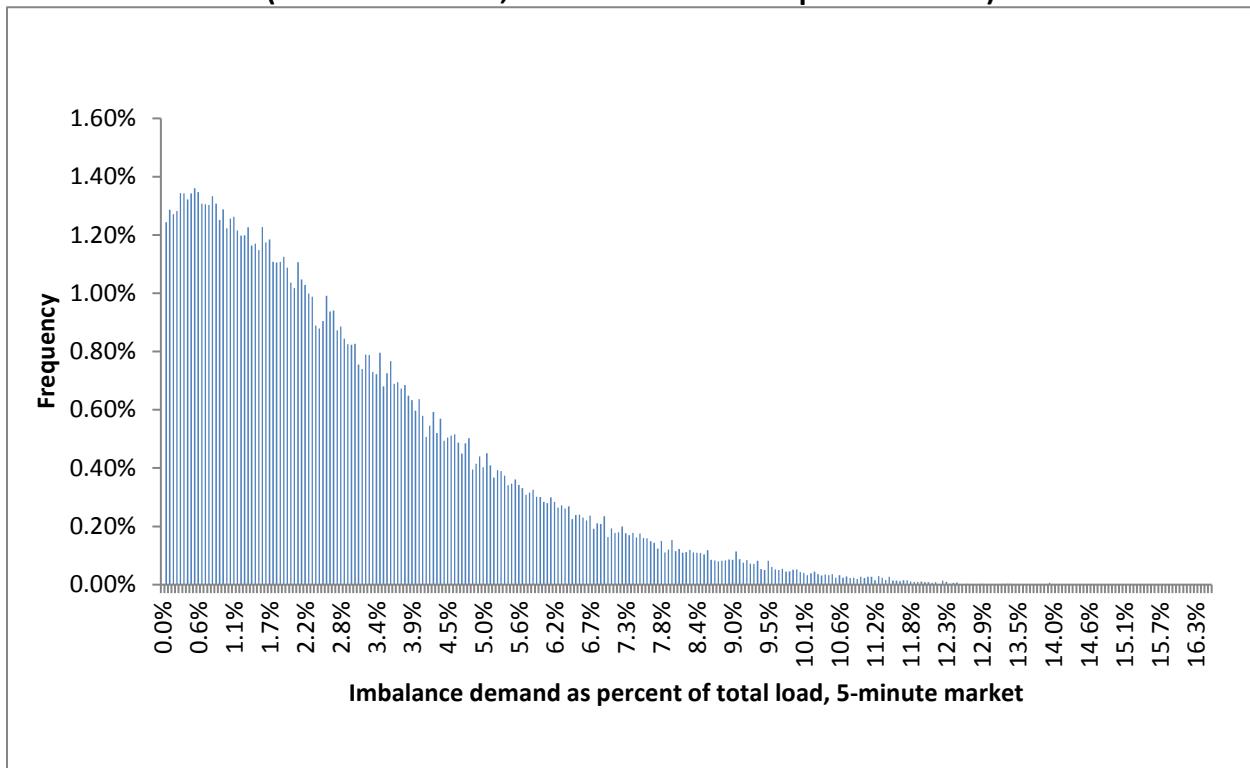


Table 1: Imbalance demand (MW)

Market	average	median	Intervals demand positive	Average positive demand	Percentiles		
					90th	95th	97th
15-minute	-46	-48	41.8%	176	252	347	415
5-minute	-16	-73	42.5%	375	581	811	944

Table 2: Imbalance demand as share of total load (absolute value)

Market	median	90th	95th	97th
15-minute	1.3%	3.5%	4.3%	4.8%
5-minute	2.3%	6.2%	7.6%	8.5%

3.2 Competitive supply of imbalance energy

The competitive supply available to meet EIM internal demand consists of supply that is not controlled by the generation arm of the EIM BAA or one of its affiliates. In all EIM areas, all or most of the available competitive supply is from outside the EIM BAA. In the case of the three BHE BAAs in the EIM, a very small amount of generation in these BAAs that is controlled by one other entity has been offered in the EIM. We have excluded these resources in this analysis since this is a relatively small amount of generation and is controlled by a single entity. When these resources do participate in the EIM, this means more competitive supply was available than we calculate here.

In both the 15-minute and 5-minute markets, a significant amount of competitive supply from the ISO was available to be transferred into the BHE BAAs during the period of this analysis. As shown in Table 3, during 90 percent of 15-minute market intervals, the potential supply that could be transferred from the ISO into the BHE BAAs ranged from 1,117 MW up to 1,228 MW. This represents less than a 5 percent up or down deviation from the median.

In the 5-minute market the variation was wider. Transfer constraints in the 5-minute market more explicitly depend on interactions with surrounding BAAs. The interactions lead to slightly lower on average capacity and more variability.

Table 3: Competitive supply from ISO into BHE (MW)

Market	Percentiles			
	5th	50th	95th	97th
15-minute	1117	1178	1228	1228
5-minute	862	947	1147	1203

4 Structural market competitiveness

4.1 Pivotal supplier test

The pivotal supplier test for structural market power in EIM asks this question: could imbalance demand within the EIM area have been met by transfers from other unaffiliated BAAs, without using generation controlled by the EIM entity or its affiliates? If so, then the EIM entity was not pivotal in that interval and could not have successfully raised prices at that time. In a structurally competitive market the exercise of market power would be difficult and opportunities to do so would be rare.

For the case of the BHE sellers, we test all three BAAs together by aggregating imbalance demand across the PacifiCorp East, PacifiCorp West, and NV Energy BAAs. The aggregated imbalance demand is compared to possible supply that could be transferred into these area from the ISO BAA.

The pivotal supplier test can be performed for individual intervals using historical data by calculating how often competitive supply was able to meet imbalance demand in the combined BHE areas. When the level of competitive supply exceeds imbalance demand, BHE would be pivotal. Table 4 shows results of this analysis for each of the 10 months examined in this report.

Table 4: Frequency that BHE is pivotal in BHE EIM area

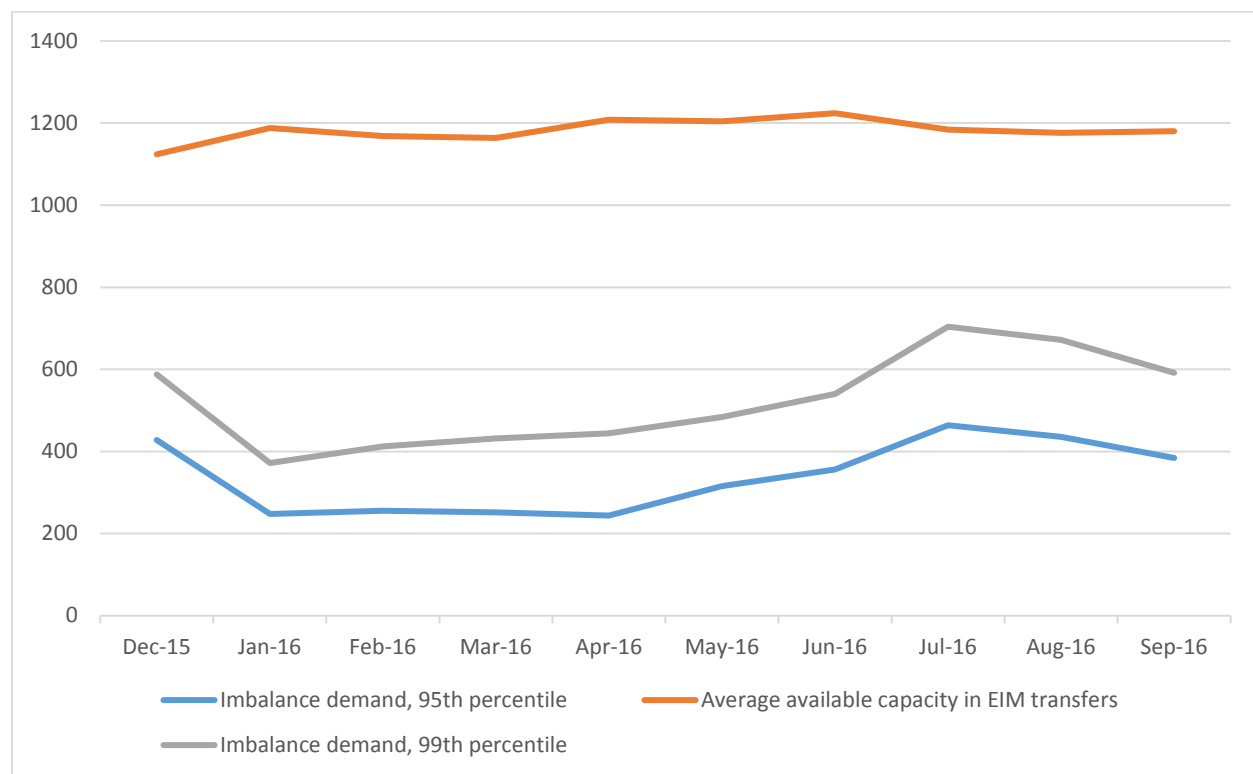
Month	Share of intervals with imbalance demand greater than transfer capacity	
	15-minute market	5-minute market
Dec-15	0.3%	1.8%
Jan-16	0.0%	2.6%
Feb-16	0.0%	0.3%
Mar-16	0.0%	2.0%
Apr-16	0.0%	3.0%
May-16	0.0%	1.8%
Jun-16	0.0%	2.8%
Jul-16	0.2%	1.6%
Aug-16	0.0%	1.6%
Sep-16	0.3%	0.3%

We can also summarize the structural competitiveness of the BHE BAAs in the EIM based on statistical values of supply and demand. Figure 5 and Figure 6 provide a comparison between average transfer capacity, representing competitive supply, and the 95th percentile of imbalance demand.⁵

Figure 5 shows a comparison of average available supply to the 95th percentile and the 99th percentile of demand for the 15-minute market. In the 15-minute market, average competitive supply exceeded both the 95th and 99th percentile of imbalance demand during each month of the study period. In most months, average competitive supply is about three times as large as the 95th percentile of imbalance demand. For 7 of the 10 months in the study period, there were no 15-minute market intervals where imbalance demand was larger than available competitive supply. During the 3 months where this did occur, less than 0.3 percent of the intervals in each month contained conditions that could have led to the exercise of market power.

These results show that supply and demand conditions in the 15-minute market were competitive during more than 99% of the study period. Transfer capacity allowed resources from other parts of EIM to compete with resources controlled by BHE in almost all intervals of the 15-minute market.

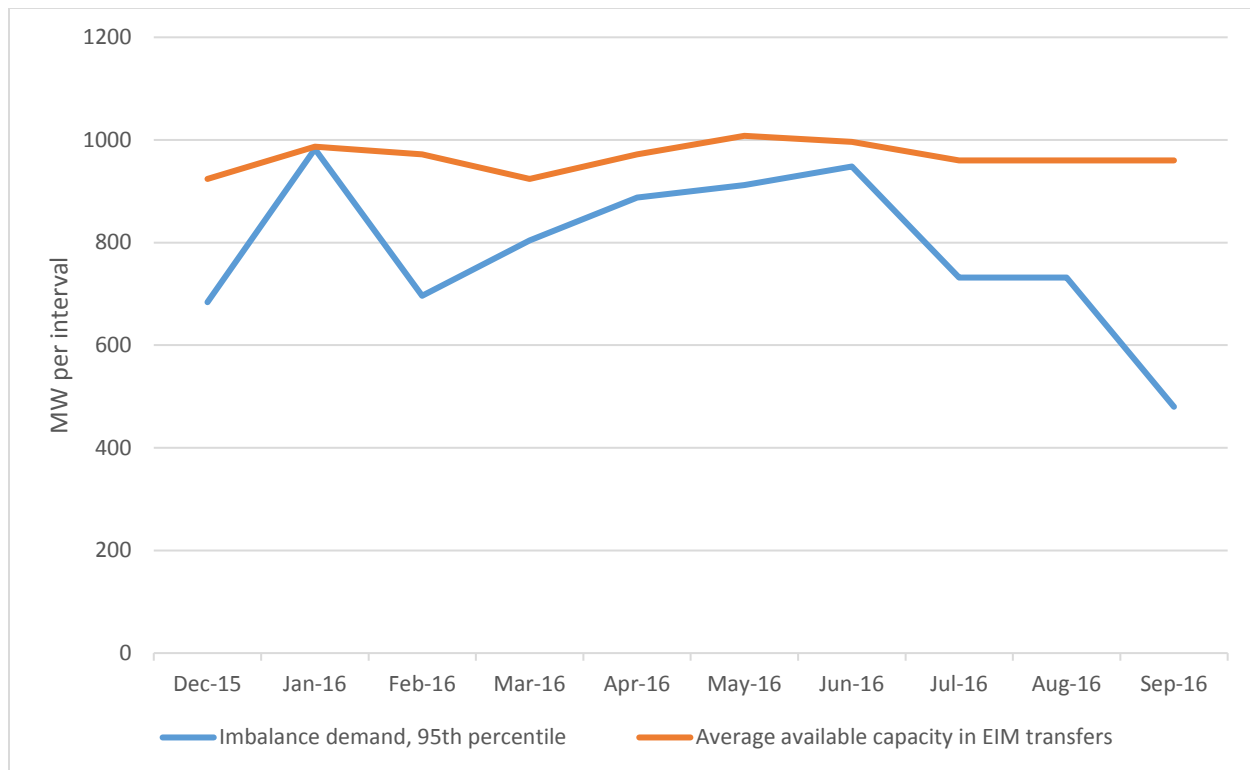
Figure 5: BHE imbalance demand and competitive supply (15-minute market)



⁵ If we use the average demand over some period of time to compare to average transfer capacity, we will include the negative intervals and may provide an underestimate of the size of the market. Therefore, instead of comparing average competitive supply to average demand, we compare average competitive supply to imbalance demand in intervals with particularly tight supply conditions.

Fundamental supply and demand conditions in the 5-minute market are also competitive. Figure 6 shows that these conditions are tighter than in the 15-minute market, but that average competitive supply still meets the 95th percentile of demand in all months of the study period. Competitive supply exceeded imbalance demand in the vast majority of 5-minute intervals. In at least 97 percent of intervals in each month, the amount of EIM transfer capacity from the ISO exceeded total imbalance demand in the BHE area.

Figure 6: BHE imbalance demand and competitive supply (5-minute market)



4.2 Market separation due to congestion

Another indicator that is often used to assess the structural competitiveness of a market (or a potential sub-market within a larger market) is the frequency with which an area is separated by congestion from other markets or a larger market. In an LMP market, such congestion results in *price separation*, which reflects higher LMPs within a congested area due to the positive congestion component of LMPs in that area.

Table 5 shows the portion of intervals that each of the different BHE BAAs were separated by congestion from the ISO portion of the EIM, such that prices within the BHE BAAs were higher due to congestion on EIM transfer constraints between these areas and the ISO.⁶ As shown in Figure 5, the frequency of price separation due to congestion limiting transfers into the BHE BAAs is extremely low. These results provide further evidence of the structural competitiveness of BHE BAAs.

Table 5: Frequency of price separation

BAA	Share of intervals exhibiting price separation	
	15-minute market	5-minute market
PACE	2.5%	2.3%
PACW	1.7%	4.1%
NEVP	2.4%	2.1%

4.3 Energy bid mitigation

During the relatively small number of intervals when BHE may be pivotal and competitive supply from the ISO into any of the BHE BAAs may be limited by congestion, this potential structural market power is mitigated by the ISO's real-time bid mitigation procedures. When these procedures are triggered by congestion in the real-time market, bids of all supply within a BAA that is separated from the ISO are automatically subject to cost-based bid limits.

The ISO implemented enhancements to its real-time bid mitigation procedures in the 15-minute market in Q3 2016 and in the 5-minute market in Q2 2017.⁷ With these enhancements, any potential market power can be effectively mitigated by these automated procedures. DMM will provide analysis the effectiveness of these procedures in separate future reports.

⁶ In the EIM, price separation can also occur due to the greenhouse gas (GHG) component of LMPs and congestion on constraints within each EIM BAA. Therefore, this analysis is based only on price separation due to congestion on transfer constraints between EIM areas.

⁷ 2016 Annual Report on Market Issue and Performance, Department of Market Monitoring, May 2017. pp. 20, 253-255, <http://www.caiso.com/Documents/2016AnnualReportonMarketIssuesandPerformance.pdf>

5 Conclusion

This paper describes a method used by DMM to evaluate the potential for market power in existing EIM areas. Our conclusion is that the combined BHE area is structurally competitive during almost all intervals in the EIM due to the amount of competitive that could be transferred into the BHE area from the ISO. As additional BAAs that are not affiliated with BHE join EIM, this additional transfer capacity and diversity of supply ownership should further increase the pool of competitive supply and make the EIM even more competitive.

EXHIBIT 4

DMM Presentation (July 13, 2017)

WESTERN ENERGY IMBALANCE MARKET

Department of Market Monitoring Update

Eric Hildebrandt

Director, Department of Market Monitoring

EIM Governing Body Meeting

General Session

July 13, 2017

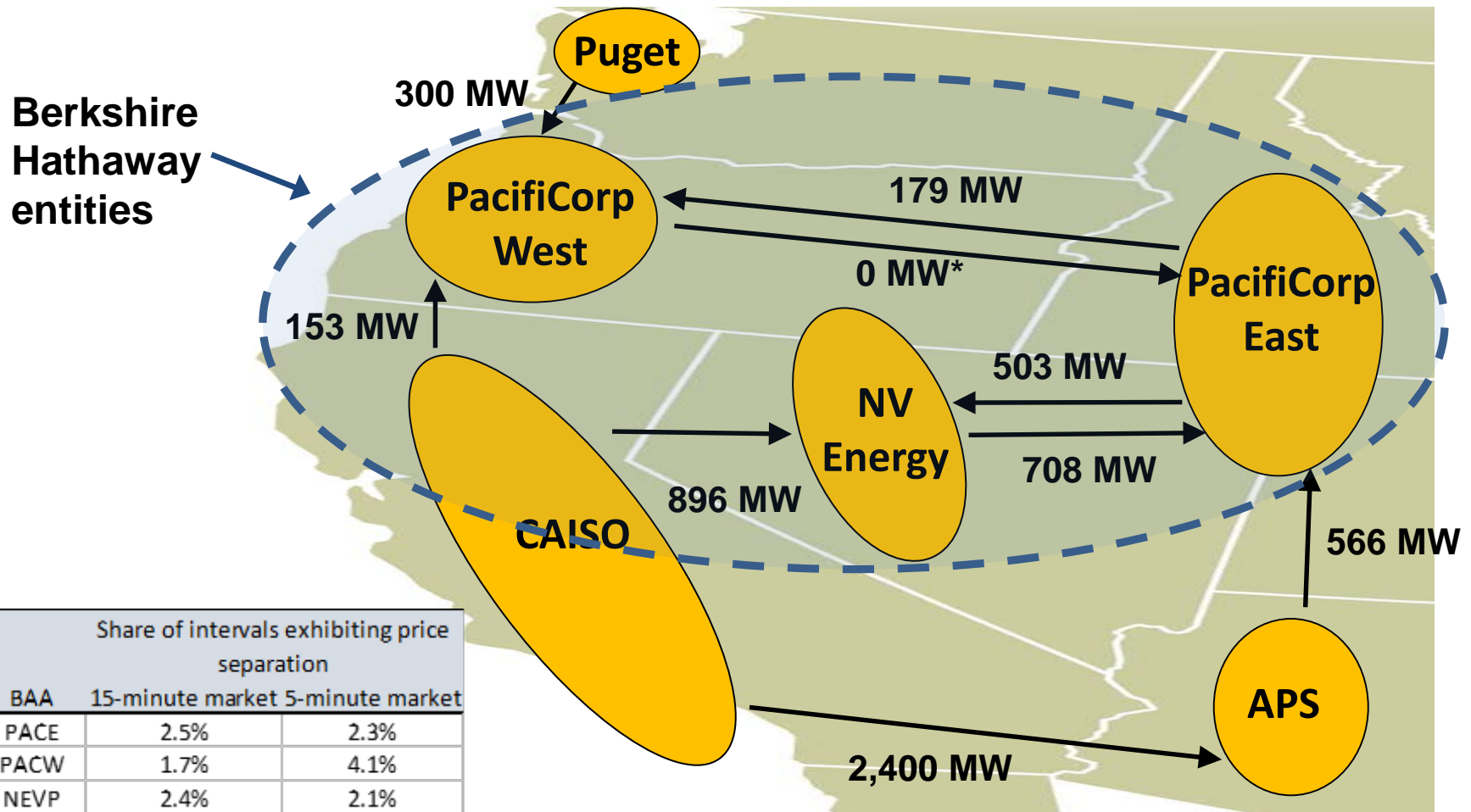


DMM actively supporting market-based rates for EIM participants

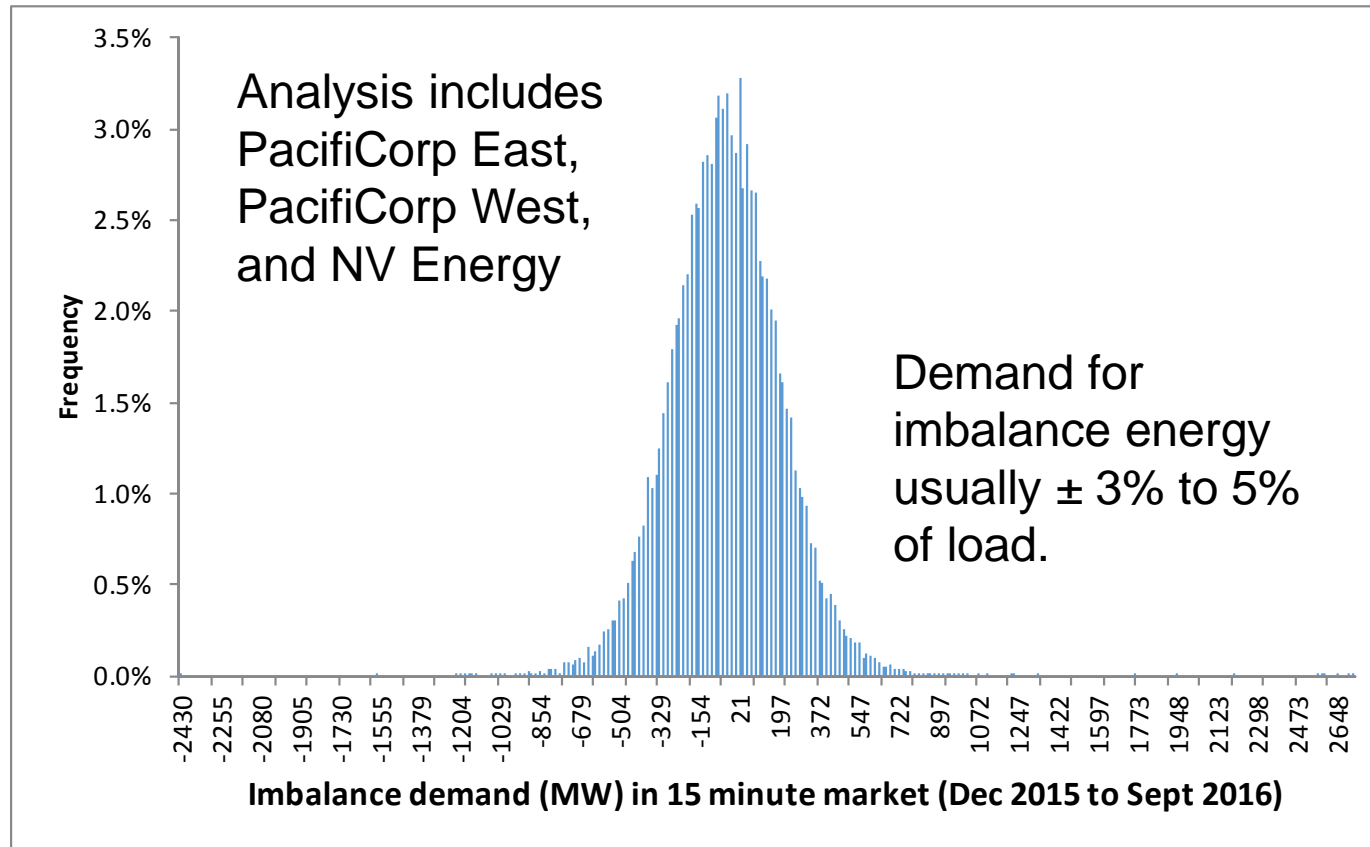
- Several EIM participants subject to special bidding limits imposed by FERC
 - Berkshire Hathaway entities (PacifiCorp, NV Energy) and APS
 - Must submit energy bids at or below cost-based Default Energy Bids (DEBs) all hours
 - DEBs intended for use only when ISO's automated market power mitigation provisions triggered
- New EIM participants must apply for market-based rates
- Analysis by DMM supports finding that special FERC bidding limits no longer needed:
 - EIM areas area structurally competitive almost all intervals
 - ISO rules effectively mitigate market power when an EIM area is not structurally competitive

Growth in EIM transfer capacity has significantly increased market competitiveness

Total average transfer capacity (Oct 2016 – Jan 2017)



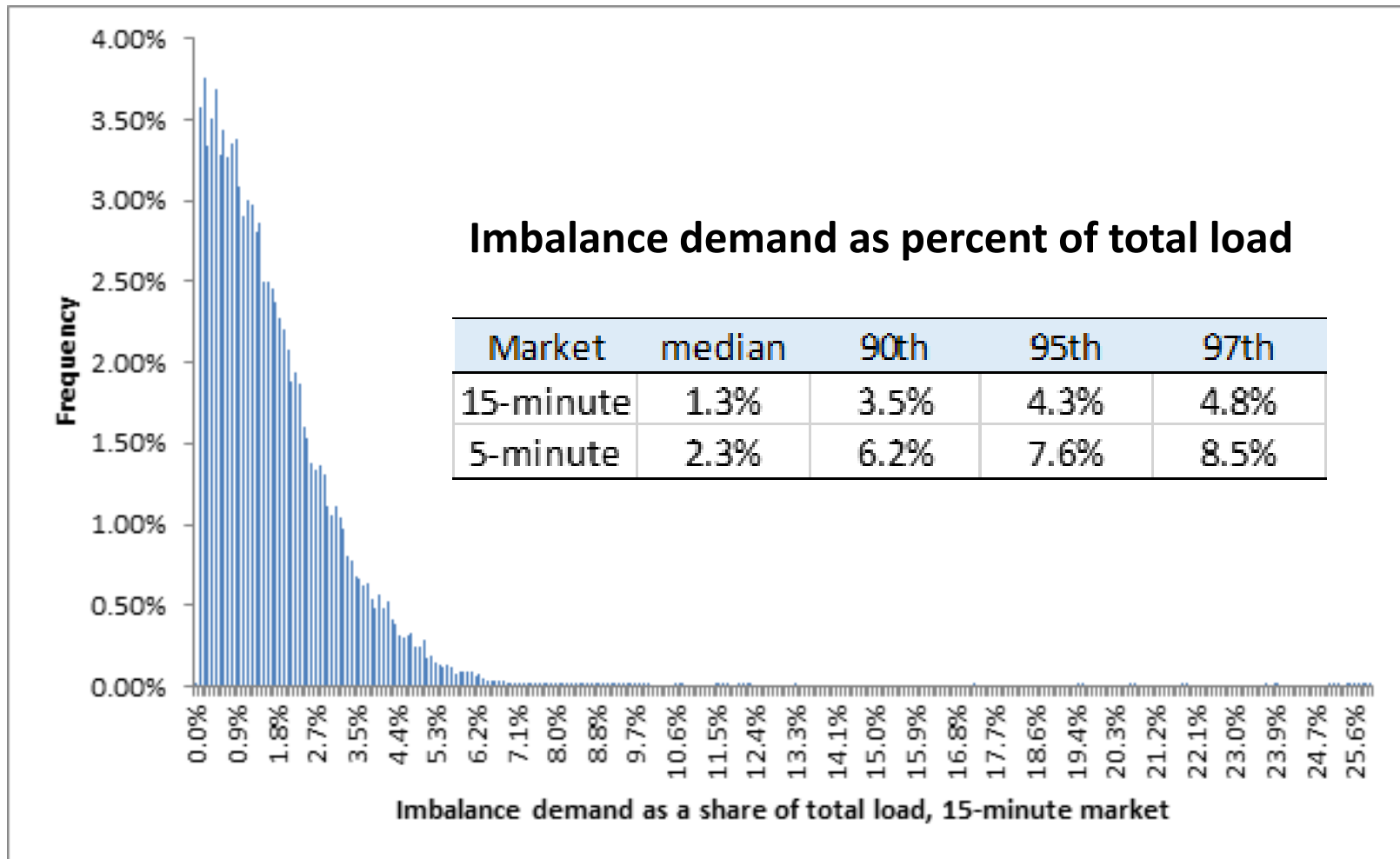
Demand for imbalance energy in combined Berkshire Hathaway balancing areas



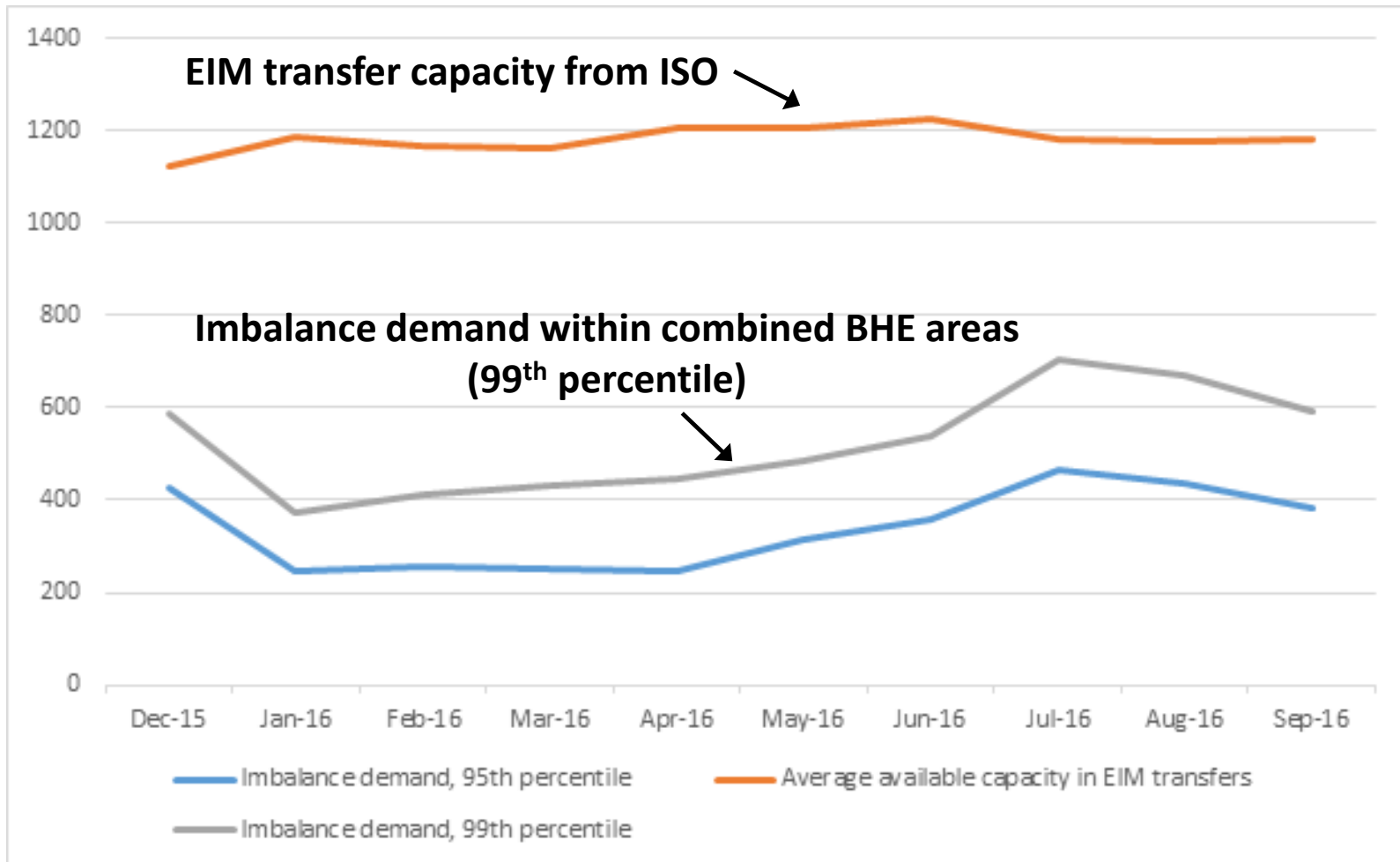
Structural competitiveness of the energy imbalance market: Analysis of market power of the Berkshire Hathaway entities, June 29, 2017, Department of Market Monitoring,

<http://www.caiso.com/Documents/AnalysisofMarketPoweroftheBerkshireHathawayEntities.pdf>

Demand for imbalance energy in combined Berkshire Hathaway balancing areas as percent of total load



Transfer capacity from ISO exceeds imbalance demand by large margin almost all intervals



Berkshire Hathaway entities are potentially pivotal very small portion of intervals

Share of intervals with imbalance demand greater than transfer capacity		
	15-minute market	5-minute market
Dec-15	0.3%	1.8%
Jan-16	0.0%	2.6%
Feb-16	0.0%	0.3%
Mar-16	0.0%	2.0%
Apr-16	0.0%	3.0%
May-16	0.0%	1.8%
Jun-16	0.0%	2.8%
Jul-16	0.2%	1.6%
Aug-16	0.0%	1.6%
Sep-16	0.3%	0.3%
	0.1%	1.8%

Automated bid mitigation procedures effectively mitigate structural market power in these intervals.

Improvements to automated real-time bid mitigation procedures have been successfully implemented

- Bid mitigation triggered only when EIM areas are projected to be separated from rest of system by congestion
- Improvements have been implemented to reduce intervals when congestion not correctly projected in real-time
- Reduction in *under-mitigation* in 2017:
 - Reduced from 17% to 1.5% in 15-minute market (Jan-June)
 - Reduced from 40% to 9% in 5-minute market (May-June)
- Automated bid mitigation procedures effectively mitigate market power during small portion of intervals when EIM areas not structurally competitive

EXHIBIT 5

December 2016 DMM Report (December 7, 2016)

Memorandum

To: ISO Board of Governors
From: Eric Hildebrandt, Director, Market Monitoring
Date: December 7, 2016
Re: Department of Market Monitoring update

This memorandum does not require Board action.

EXECUTIVE SUMMARY

This memo provides an update on recent actions, analysis and recommendations by the Department of Market Monitoring aimed at gaining approval from the Federal Energy Regulatory Commission to allow market based rate authority for entities participating in the energy imbalance market. The memo also provides an update on energy imbalance market performance.

FERC has denied market based rate authority for sales in the energy imbalance market by most participants based on concerns about structural market power and the effectiveness of the ISO's market power mitigation provisions in the energy imbalance market. The Commission's concerns about market power in the energy imbalance market are heightened by the lack of the type of *must offer* requirement that exists in the CAISO and other organized markets. FERC has required that market bids submitted by participants without market based rate authority not exceed each unit's cost-based *default energy bids* which are calculated by the ISO for use in local market power mitigation.

DMM has taken steps to ensure strong market power mitigation in the energy imbalance market, but DMM supports additional bidding flexibility when competitive conditions exist. DMM believes this additional bidding flexibility will ultimately increase market efficiency and competitiveness by encouraging maximum participation in the energy imbalance market. Consequently, DMM is taking numerous steps to address issues cited by FERC in orders denying market based rate authority for entities participating in the energy imbalance market.

- DMM has submitted analysis to FERC showing that the frequency of potential structural market power in the PacifiCorp and NV Energy areas had dramatically reduced with the additional transfer capacity that became available when NV Energy joined the energy imbalance market. This structural competitiveness effectively

mitigates the potential for the exercise of market power through both economic and physical withholding during most intervals.

- DMM has recommended that the ISO implement enhancements to the ISO's automated market power mitigation process and outage reporting procedures to address concerns expressed by FERC about the potential for economic and physical withholding in the energy imbalance market. The ISO has indicated these enhancements may be implemented in early 2017.
- DMM is working with entities seeking market based rate authority in the energy imbalance market to help facilitate analysis needed to gain approval for market based rate authority from FERC. As part of this effort, DMM is seeking to ensure that the data needed for such analysis is available to market participants. DMM believes this may require provision of some data that are not currently publicly available for use in market power analysis.

Background

Within each balancing area in the energy imbalance market, a single supplier – the incumbent investor owned utility – controls virtually all the supply participating in the energy imbalance market. However, energy imbalance market balancing areas can be highly competitive as long as sufficient supply from the broader ISO system can be transferred into an area through the energy imbalance market. When the energy imbalance market began operation, the extent to which sufficient transfer capacity would exist to ensure competitive conditions in different energy imbalance market areas was uncertain. However, since the addition of NV Energy in 2015, each of these balancing areas has been structurally competitive during almost all intervals due to the availability of competitively priced supply that is can be transferred into each area through the energy imbalance market.

In FERC's November 19, 2015 order, the Commission found that the market power analyses submitted by PacifiCorp and NV Energy (referred to collectively as Berkshire Sellers) failed to demonstrate a lack of market power in the energy imbalance market. The Commission therefore required that all market bids from Berkshire Sellers' units participating in the energy imbalance market be submitted at or below each unit's *default energy bid*. In August, the Commission issued an order imposing a similar bidding limitation on Arizona Public Service (APS) prior to its entry into the energy imbalance market in 2016.

Default energy bids are cost-based bids calculated by the ISO which are used to limit market bids submitted by participants when local market power mitigation provisions are triggered. Under these procedures, market bids submitted by participants are capped when congestion occurs on uncompetitive constraints. When bids are mitigated, they are capped at the higher of a competitive market price or the unit's default energy bid.

Default energy bids for resources participating in the energy imbalance market are calculated prior to each operating day. Because of the timing of when these bids are currently calculated, the ISO must use publically available prices for gas purchased in the next day gas market when calculating default energy bids for gas-fired units. Default energy bids include a 10 percent adder that covers potential differences in the price of gas purchased in the same day market rather than the next day market price that is used to calculate default energy bids.

DMM has performed analysis showing that default energy bids allow resources to bid up to levels reflecting actual gas costs in the real-time market under almost all cases. In addition, resources are currently allowed to request cost recovery from FERC for any energy costs incurred that are not recovered as a result of bidding limits on energy and commitment costs. In the energy imbalance market, entities can also refrain from offering additional capacity that may be used to support transfers out of the balancing area at prices below the resource's actual costs due to these bidding restrictions.

DMM believes that default energy bids are highly accurate and appropriate for use when local market power mitigation procedures are triggered. These procedures are only triggered when an area may be structurally uncompetitive due to congestion on transfer limits into that area in the energy imbalance market. However, when competitive conditions exist, DMM believes it is better to allow participants in the energy imbalance market to have the same bidding flexibility that is afforded other ISO market participants as a means of managing issues relating to gas costs, fuel availability, and special unit operating characteristics and limitations.

Similarly, default energy bids for hydro units are based on pre-agreed formulas to estimate potential opportunity costs for use when local market power mitigation provisions are triggered. However, the ISO market is designed to allow participants the flexibility to submit market bids in excess of these estimated costs to allow more efficient management of operational limits of hydro resources in the real-time market over the course of each operating day.

Rather than having entities manage these gas and hydro limitations by not offering these resources during some hours, DMM believes it is better to allow suppliers to manage these limitations based on market bids that are used when mitigation is not triggered. Therefore, DMM is taking numerous steps to address the issues cited by FERC in orders denying market based rate authority for entities participating in the energy imbalance market. The remaining sections of this memo highlight steps being taken by DMM and the ISO.

Structural market power

In July and December, DMM submitted its third and fourth reports to FERC on the structural market competitiveness in the PacifiCorp balancing authority areas.¹ Each of these reports have provided analysis showing that the frequency of potential structural market power in the PacifiCorp and NV Energy areas had dramatically reduced with the additional transfer capacity that became available when NV Energy joined the energy imbalance market. This structural competitiveness mitigates the potential for the exercise of market power through both economic and physical withholding during most intervals.

Table 1 provides a summary of analysis provided in DMM's most recent report on structural market power. As shown in Table 1, scheduling constraints limiting transfers into each of these areas from the ISO in the real-time market have been binding only about 1 to 3 percent of intervals. Thus, during almost all intervals the potential for the exercise of market power in these areas is mitigated by the availability of competitive supply from the ISO system.

Table 1. Summary of energy imbalance market transfers and congestion (January – October 2016)*

EIM area	<u>Net exporter</u>		<u>Net importer</u>		<u>Import congestion from ISO*</u>	
	Frequency	Average MW	Frequency	Average MW	15-minute	5-minute
California ISO	33%	378	67%	-343		
PacifiCorp East	80%	333	20%	-197	2%	2%
PacifiCorp West	55%	110	42%	-126	1%	3%
NV Energy	33%	154	67%	-286	2%	2%
Puget Sound Energy	46%	89	50%	-90	0%	1%
Arizona Public Service	70%	274	30%	-178	0	0

* Intervals when supply from ISO was limited due to congestion on EIM transfer constraints. Data for Puget Sound Energy and Arizona Public Service are only for October 2016.

¹ See *Report on Structural Competitiveness of Energy Imbalance Market*, Department of Market Monitoring, December 6, 2016 and *Report on Structural Competitiveness of Energy Imbalance Market*, Department of Market Monitoring, July 7, 2016.
http://www.caiso.com/Documents/Jul8_2016_DepartmentMarketMonitoring_EIM_StructuralMarketPowerInformationalReport_ER14-1386.pdf.

In a June 2015 order, FERC required the ISO to submit such reports every six months for two years following the launch of the energy imbalance market. The Commission indicated that it would use the information in these reports to determine if any action is necessary to address structural market power in the energy imbalance market in the PacifiCorp balancing areas.

Moreover, the volume of transfers into each of these areas available through the energy imbalance market appears to significantly exceed the amount of the demand for imbalance energy from third party entities during most if not all intervals.² This also mitigates the potential exercise of market power since the major supplier in each area is usually a *net buyer* in the energy imbalance market when congestion into their balancing area occurs.

Enhanced market power mitigation procedures

During the limited number of intervals when competitive supply from ISO into the energy imbalance market is constrained by congestion on transfer constraints, the ISO's automated real-time market power mitigation procedures are designed to mitigate the potential exercise of market power through *economic withholding*.³ When congestion is projected to occur on a constraint – and the supply of resources that can relieve this constraint is structurally uncompetitive – the ISO's automated bid mitigation procedures are triggered. However, under the ISO's current process, congestion sometimes occurs in the market run during intervals when congestion was not projected to occur in the preceding process used to determine if bid mitigation should be triggered. DMM's prior annual reports include analysis of this issue, which is referred to as *under-mitigation*.⁴

FERC cited the issue of potential under-mitigation as one of the concerns in its decision to deny market based rate authority to the Berkshire Sellers in the energy imbalance market. Since 2015, DMM has been working with the ISO to develop enhancements to automate market power mitigation procedures to ensure that bid mitigation is triggered in the real-time market when congestion occurs on structurally uncompetitive constraints.

The ISO implemented these enhancements in the 15-minute market in fall 2016 and has filed for approval to implement enhancements in the 5-minute market in 2017. DMM has reviewed the effectiveness of enhancements recently implemented in the 15-minute market and is recommending further modifications in how these enhancements are implemented. DMM will continue to monitor and report on the effectiveness of these enhancements in order to address the Commission's concerns about this issue in the energy imbalance market.

² See *Report on Structural Competitiveness of Energy Imbalance Market*, Department of Market Monitoring, July 7, 2016, op.cit. pp 6-7.

³ Economic withholding involves bidding a resource above its marginal cost so that market clearing prices are increased by either setting the prices at the resource's bid price or causing another higher priced bid to set price.

⁴ For instance, see *2015 Annual Report on Market Issues and Performance*, Department of Market Monitoring, May 2016, Section 7.3: <http://www.caiso.com/Documents/2015AnnualReportonMarketIssuesandPerformance.pdf> and *2014 Annual Report on Market Issues and Performance*, Department of Market Monitoring, June 2015, Section 6.3: http://www.caiso.com/Documents/2014AnnualReport_MarketIssues_Performance.pdf.

Enhanced outage reporting

In FERC's November 2015 Order, the Commission also expressed concern about the potential for physical withholding in the energy imbalance market from the lack of a must-offer requirement. To enhance DMM's ability to monitor capacity not offered in the energy imbalance market, DMM has recommended that the ISO and energy imbalance market entities develop more descriptive categories that can be entered in the ISO's outage management system to indicate the reason for unit outages or de-rates.

DMM has specifically noted that in the energy imbalance market, some entities are using forced outages categorized as being for physical plant problems to limit the availability of some capacity for other reasons. DMM understands that in many cases, these reported forced outages are being used as a way of managing various other operational and market issues. For example, since bids in the energy imbalance market must be submitted at least 75 minutes prior to the start of each operating hour, entities may bid capacity into the market and then use outages to manage issues that may affect the availability of this capacity within each hour. These issues include management of capacity used for operating reserves and capacity that is unavailable due to transmission, fuel or operating limitations not reflected in the ISO market software.

DMM has recommended that the ISO clarify reasons for which it is acceptable to use the outage reporting system and then create new outage codes that clearly identify when capacity is made unavailable to the market software using the outage reporting system. The ISO is working to implement this recommendation.

Enforcement of internal constraints

In FERC's November 19, 2015, Order, the Commission also conditioned Berkshire Sellers' participation in the energy imbalance market on a requirement that these entities facilitate the ISO's enforcement of all internal transmission constraints in the PacifiCorp and NV Energy balancing authority areas. This requirement stems from the Commission's concern that if constraints are not enforced in the market software, then the ISO's local market power mitigation procedures cannot be triggered when these constraints become binding.

In the second quarter of 2016, DMM's review indicated that a significant number of constraints that had been incorporated in the network model were not being enforced. Consequently, DMM has requested that the ISO and EIM entities further review this issue and provide a report to FERC identifying constraints that are not modeled or enforced, along with an explanation of the reasons some constraints were not enforced. The ISO submitted a report on enforcement of constraints within the NV Energy area in November and has indicated it is working with PacifiCorp to file a similar report for that balancing area.⁵

⁵ http://www.caiso.com/Documents/Nov10_2016_EIM_Enforcement_TransmissionConstraints_NVEnergy_ER15-2281_ER15-2282_ER15-2283.pdf

DMM's review indicates that one factor that may be contributing to the lack of congestion within the PacifiCorp area is that some scheduling limits associated with transmission contracts (between PacifiCorp and non-PacifiCorp entities owning transmission within the PacifiCorp balancing area) are not incorporated in the full network model. DMM has recommended that the ISO and energy imbalance market entities assess whether these transmission contract limits can be directly enforced by the energy imbalance market software. This could allow more efficient dispatch of different resources to meet scheduling limits and avoid the need for energy imbalance market participants to not offer or limit generation in the market in an effort to avoid exceeding scheduling limits.

Data requirements

DMM is working with entities seeking market based rate authority in the energy imbalance market to help facilitate analysis needed to gain approval for market based rate authority from FERC. As part of this effort, DMM is seeking to ensure that the data needed for such analysis is available to participants requesting market based rate authority in the energy imbalance market. DMM believes this may require provision of some data that are not currently publically available for use in market power analysis.

Recent energy imbalance market performance

In October the energy imbalance market expanded to include Puget Sound Energy (PSE) and Arizona Public Service (APS). Implementation of the energy imbalance market in these areas went well during the first month of operation.

Figures 1 and 2 show the average hourly prices used to settle loads in these areas for October.⁶ Settlement prices in PSE were lower than the ISO and reflected PacifiCorp West prices (see Figure1). Settlement prices in APS largely reflected prices in the ISO during October (see Figure 2). Overall average prices over all hours in both these areas were about equal to daily bilateral market prices previously used in these areas to settle real-time imbalances.

⁶ Hourly settlement prices represent a volume weighted average price of 15-minute and 5-minute prices.

Figure 1. Average prices in Puget Sound Energy (October 2016)

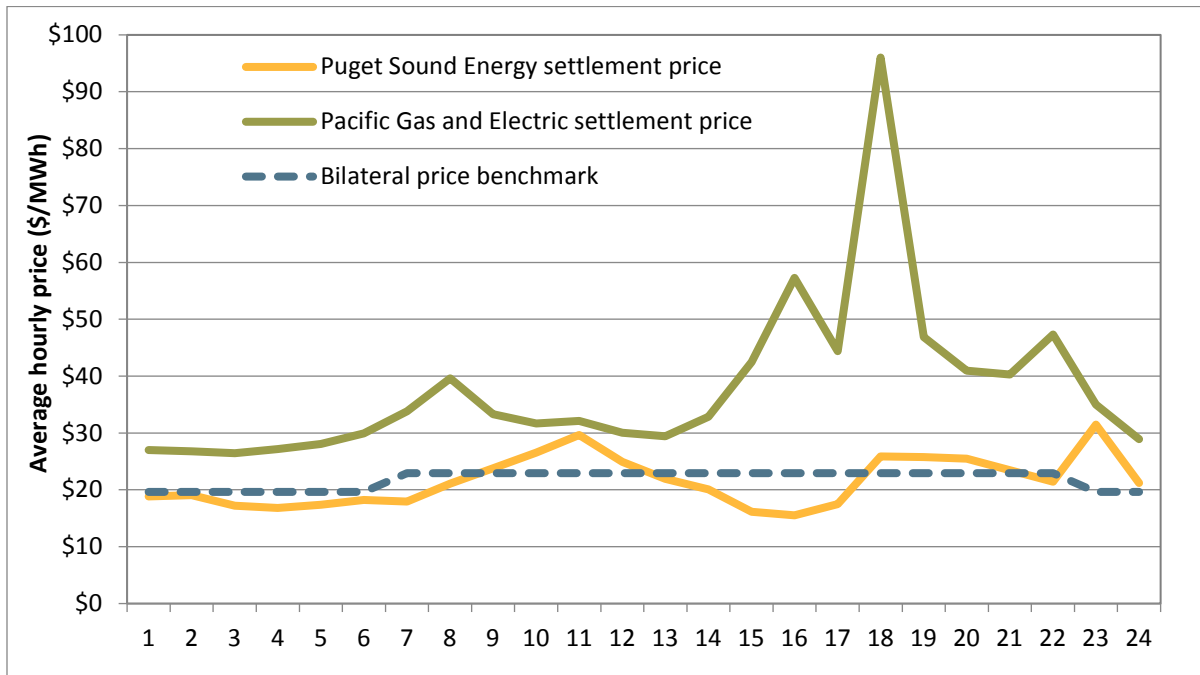
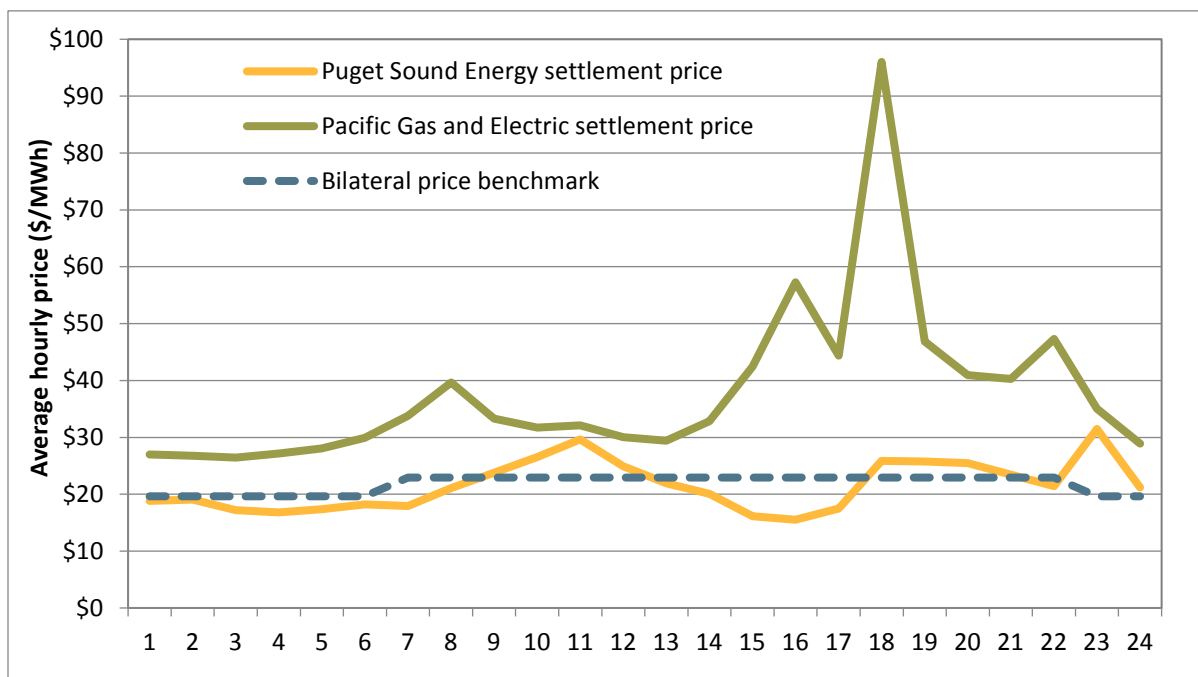


Figure 2. Average prices in Arizona Public Service (October 2016)



As shown in Figures 1 and 2, hourly prices in PSE and APS reflect the daily “duck curve” pattern that had become predominant in the ISO with the increase in solar energy, with the highest prices occurring in the morning and evening ramping hours. This hourly price pattern more closely reflects actual real-time system conditions than the day-ahead bilateral market prices previously used in these areas to settle real-time imbalances (see dotted blue lines in Figures 2 and 3). This reflects how the energy imbalance market can provide better price signals that more closely reflect actual system and market conditions over the day compared to day-ahead bilateral price indices previously used in these areas to settle real-time imbalances.

In November, the ISO implemented the new flexible ramping product in ISO’s real-time market. DMM is currently reviewing the details of how this new feature has been implemented. DMM notes that beginning in November there has been a significant increase in the hours in which the flexible ramping capacity sufficiency test has not been met in the APS balancing area. Although this appears to have contributed to an increase in power balance constraint relaxations the APS area, the impacts of this are currently mitigated by the price discovery provisions that are in place during the first six months that a balancing area is participating in the energy imbalance market. DMM will provide additional analysis of this issue and the flexible ramping product in future quarterly reports.

Conclusions

DMM will continue to work with the ISO to address issues cited by FERC in orders denying market based rate authority for entities participating in the energy imbalance market. DMM will work to ensure that the energy imbalance market includes strong market power mitigation provisions, but supports additional bidding flexibility when competitive conditions exist. DMM believes this additional bidding flexibility will ultimately increase market efficiency and competitiveness by encouraging maximum participation in the energy imbalance market.

FERC’s May 2016 Order on Berkshire Sellers’ request for rehearing of its market-based filing also clarified that all new entities joining the energy imbalance market must obtain market based rate authority for sales in the energy imbalance market. In September, PSE was granted market based rate authority prior to joining the energy imbalance market in October.

DMM will work with other entities to understand the conditions under which FERC will grant market based rate authority to new participants in the energy imbalance market, and will support market based rate authority when it can be demonstrated that potential market power is effectively mitigated by the structure and mitigation rules of the energy imbalance market.

EXHIBIT 6

August 2017 DMM Report (August 28, 2017)

California ISO

Impact of real-time market power mitigation enhancements in EIM areas

August 28, 2017

Department of Market Monitoring

TABLE OF CONTENTS

1	Summary	1
2	Background.....	3
2.1	Changes to 15-minute market	4
2.2	Changes to 5-minute market	4
3	Analysis of impacts.....	7
3.1	Result for 15-minute market	7
3.2	Results for 5-minute market	8
4	Conclusion	9

1 Summary

The ISO recently implemented enhancements to its automated real-time market power mitigation procedures to ensure that energy bid mitigation is triggered when structurally non-competitive constraints are binding. Due to timing limitations, mitigation in the real-time market has until recently been based only on projections of congestion on constraints made by the real-time market software for future intervals. If these projections were not accurate, this could result in under-mitigation when congestion actually occurred in the real-time market.

This report provides a summary of these enhancements and the resulting improvement in the accuracy of bid mitigation when transfer constraints in the Energy Imbalance Market (EIM) are binding. This analysis indicates that these recent enhancements have greatly decreased any potential for any under mitigation when congestion on the EIM transfer constraints.

- In the 15-minute market, intervals in which the potential for under-mitigation occurred due to congestion on EIM transfer constraints dropped from 25 percent to less than 3 percent of intervals.
- In the 5-minute market, intervals in which the potential for under-mitigation occurred due to congestion on EIM transfer constraints dropped from 41 percent to less than 8 percent of intervals. The higher rate of potential under mitigation in the 5-minute market appears to be driven by special limitations placed on transfer constraints involving transmission through the BPA balancing area.

The increased accuracy ensures the effectiveness of these automated mitigation procedures and mitigates concern that an EIM entity would have the opportunity to exercise market power through economic withholding.

2 Background

FERC's November 19, 2015 order found that the market power analyses of the expanded EIM footprint by PacifiCorp and NV Energy (Berkshire EIM Sellers) were deficient and failed to demonstrate a lack of market power in the expanded EIM.¹ The Commission also cited concerns regarding the ability of the ISO's automated market power mitigation procedures to mitigate the Berkshire EIM Sellers' market power in the expanded EIM.

As a result of these concerns, the Commission has required PacifiCorp and NV Energy to limit the price at which they offer capacity in the EIM to be not greater than the cost-based default energy bids (DEBs) that are used to limit bids when its automated market power mitigation provisions are triggered. The Commission cited similar concerns about the ISO's automated market power mitigation procedures and imposed a similar limit on Arizona Public Service (APS) when APS joined the EIM in December 2016.²

The ISO's automated bid mitigation procedures address the potential for the exercise of market power through *economic withholding*, or bidding in excess of a resource's short-run marginal cost. These mitigation procedures are triggered only when congestion is projected to occur on one or more constraints which are determined to be structurally non-competitive. Due to timing limitations, mitigation in the real-time market has been based on projections of congestion made for future intervals by the real-time market software.

The Commission's November 19 Order cited concerns about the effectiveness of the ISO's bid mitigation procedures in cases when congestion is not projected to occur on an EIM transfer constraint so that mitigation may not be triggered when congestion actually occurs in the real-time market.³ DMM has highlighted this issue in prior reports, and has closely monitored its impact.⁴

While DMM's analysis indicates this issue has not adversely affected prior market competitiveness, DMM continued to work with the ISO to develop software enhancements to effectively address the issue of potential under-mitigation in the real-time market.⁵ As a result of this effort, enhancements to address the issue of under-mitigation in the ISO's real-time energy market were implemented in the 15-minute market in fall 2016 and in the 5-minute software in spring 2017.

¹ *Order on proposed market-based rate tariff changes*, November 19, 2015 153 FERC ¶ 61,206, ER15-22-81-, *Order denying rehearing and granting clarification*, May 19, 2016, 155 FERC ¶ 61,186, ER15-22-81-,

² *Order on market power analysis and market-based rate tariff changes*, August 31, 2016, 156 FERC ¶ 61,148, ER10-2437-004, ER16-1363-000, at ¶26 p.10

³ November 19 Order, ¶153 p. 19. See also ¶47 p. 17, which notes that "while we recognize Truckee Donners concern about under mitigation in the NV Energy portion of the EIM, we believe this concern is alleviated by [the requirement to bid at or below each unit's Default Energy bid].

⁴ DMM has provided discussion and analysis of the issue of potential under-mitigation in its annual report dating back to DMM's 2013 Annual Report. E.g. see *2013 Annual Report on Market Issues and Performance*, pp. 160-163. <http://www.caiso.com/Documents/2013AnnualReport-MarketIssue-Performance.pdf>

⁵ Tariff amendments to enhance local market power mitigation procedures, June 21, 2016. http://www.caiso.com/Documents/Jun21_2016_TariffAmendment-LocalMarketPowerMitigationEnhancements_ER16-1983.pdf

This report provides a summary of these enhancements and the resulting improvement in the accuracy of energy bid mitigation during intervals when EIM transfer constraints are binding.

2.1 Changes to 15-minute market

Prior to August 2016, the ISO's market power mitigation procedures for the 15-minute market had been using advisory interval results of the real-time market software. Congestion for a given interval was predicted by the market run that happened 15 minutes before the financially binding market run for that interval. Bid mitigation was based on that prediction of whether specific constraints would be binding based on advisory market results for these future intervals.

With this approach, the prediction would frequently be different than the actual congestion that existed in the binding market run. In these instances, it was possible that congestion was *over-predicted* (i.e. a constraint was predicted to be congested but this congestion was resolved in the financially binding run) or *under-predicted* (i.e. a constraint was not predicted to be congested, but was congested in the later financially binding market run).

One reason congestion could be *over* or *under-predicted* is that model inputs and conditions can be different in the financially binding market run. Load forecasts may be updated, forecasts for variable energy resources (VERs) could change, and other parameters could also be adjusted in the 15 minutes between the two market runs. Thus, one strategy to improve accuracy of the predictions was to eliminate those changes to inputs.

To decrease the frequency of both over- and under-predicting congestion, the mitigation process for the 15-minute market was modified to eliminate the advisory interval system for measuring competition and congestion. Under the new system, the mitigation run is part of the binding market run: the market power mitigation module runs and mitigates bids before passing them back to optimization for the binding market run. The goal of this change was to eliminate the changes in inputs between the run used to determine mitigation and the financially binding market run.

This new mitigation process for the 15-minute market was implemented in fall 2016. During the first few months of implementation, several software issues prevented the inputs to the mitigation and market runs from being as close as intended.⁶ These issues were resolved by the end of 2016, with the majority of inputs to the two runs being identical.

2.2 Changes to 5-minute market

Until spring 2017, mitigation for the 5-minute market was dependent on predictions of congestion made in the 15-minute market. This created a significant time lag between the mitigation run and the binding market run. This also meant that the 15-minute model used to predict congestion was not the same as the 5-minute model used to dispatch resources and set prices. In particular, constraints in the 5-minute market can be different than those in the 15-minute market.

Differences between the 15-minute model and the 5-minute model are particularly acute in the EIM areas. Some of the EIM transfers have different limits in the 5-minute market than in the 15-minute

⁶ Some issues stemmed from frequent updating of load forecast data in the market model and other issues were related to flex ramp product implementation.

market, based on interactions with non-EIM BAAs. Because these limits are different, the 15-minute results are likely to under-predict congestion in the 5-minute market.

With the new mitigation approach, mitigation may occur in the 5-minute market as a result of two different conditions. First, if bids are mitigated in the 15-minute market, these bids remain subject to mitigation in the 5-minute market during those intervals. Second, if congestion occurs in the 5-minute advisory run, bids are subject to mitigation in the binding run for that 5-minute interval. The combination of these two changes is designed to make market power mitigation more accurate and reduce under-mitigation in the 5-minute market.

Mitigation in the 5-minute market starts with the final bid set from the 15-minute market. This means that any bids mitigated in the 15-minute market will continue to be mitigated in the 5-minute market. This change may tend to decrease under-mitigation in the 5-minute market, but may increase cases when mitigation is applied (based on 15-minute market results) but no congestion occurs in the 5-minute market.

The new process for bid mitigation in the 5-minute market uses an advisory interval design similar to the prior system in the 15-minute market. Using advisory interval results can be less accurate than determining bid mitigation on the binding market run, but also uses significantly fewer computing resources. DMM analyzed the correlation between congestion in 5-minute advisory intervals versus 5-minute binding intervals and found that the correlation was significantly higher than in the 15-minute market. Because of that high correlation, DMM and the ISO determined that using 5-minute advisory interval results would be appropriate for the 5-minute market.

3 Analysis of impacts

In this analysis, we compare the accuracy of the new real-time market power mitigation procedures in terms of predicting congestion with the accuracy of the prior mitigation procedures. The accuracy of mitigation is measured by comparing the results of the mitigation run to those of the binding market run. Each time a constraint appears congested in the mitigation and/or market runs, this counts as a *congested constraint interval*. Each of these congested constraint interval fall into one of three categories:

1. **Accurately predicted.** Congestion is predicted in mitigation run on a constraint and also occurs in the market run.
2. **Predicted but resolved.** Congestion is predicted in the mitigation run, but resolved and does not occur in the market run.
3. **Under-predicted.** Congestion is not predicted in the mitigation run, but appears in the market run.

The study assesses the impact and accuracy of mitigation by comparing the percentage of congested constraint intervals that fall into each of the categories before and after implementation of the real-time market power mitigation enhancements. The primary goal of these enhancements was to increase the portion intervals in which congestion is accurately predicted, and particularly to decrease under-predicted congestion. As summarized below, the accuracy of congestion prediction in both the 15-minute and 5-minute real-time markets has increased significantly since the implementation of the new mitigation procedures.

3.1 Result for 15-minute market

The new mitigation process for the 15-minute market was implemented in fall 2016. During the first few months of implementation, several software issues prevented the inputs to the two runs from being as close as intended. By the beginning of 2017, these issues were resolved. Therefore, this analysis compares results from the first six months of 2016 to results from the first six months of 2017.

Table 1. Accuracy of congestion prediction on EIM transfer constraints in 15-minute market January through August (2016 vs. 2017)

	Accurately predicted	Predicted but resolved	Under predicted
2016 (before)	52%	23%	25%
2017 (after)	94%	3.4%	2.8%

As is seen in Table 1, the share of congested constraints intervals that were accurately predicted is drastically higher under the new system than under the prior system. 15-minute intervals in which congestion was under-predicted now represent a very small portion of total congested constraint intervals on the EIM transfers (2.8 percent). Intervals in which congestion was predicted to occur in the

mitigation run but was resolved in the final market run also dropped by a large amount and now total only 3.4 percent of 15-minute intervals in which an EIM transfer constraint was projected to be congested and/or was congested in the market run.

3.2 Results for 5-minute market

Changes to the 5-minute market were activated starting on May 2, 2017. A comparison of the accuracy before and after recent enhancements made in the 5-minute market is shown in Table 2. The period before the changes consists of eleven months of data from June 1, 2016 through May 1, 2017.

The decrease in under predicted congestion on the EIM transfers is significant – dropping from 41 percent to 8 percent. This 8 percent rate of under-prediction for the EIM transfers over this period is also significantly better than the average historical accuracy of congestion predictions for flow based constraints in the ISO's 5-minute market. In 2016, 24 percent of congested constraint intervals were under-predicted on flow based constraints in the ISO's 5-minute market.

Table 2. Accuracy of congestion prediction on EIM transfer constraints in 5-minute market

	Accurately predicted	Predicted but resolved	Under predicted
Before changes	29%	30%	41%
After changes	57%	35%	8%

4 Conclusion

The recent improvements to ISO's real-time market power mitigation procedures have made dramatic reductions to the instances of underestimated congestion on the EIM transfer constraints. The increased accuracy ensures the effectiveness of these automated mitigation procedures and mitigates concern that an EIM entity would have the opportunity to exercise market power through economic withholding.

EXHIBIT 7

PacifiCorp Enforcement of Transmission Constraints Report (March 29, 2017)



California Independent System Operator Corporation

March 29, 2017

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**Re: California Independent System Operator Corporation
Docket Nos. ER15-2281-_____, ER15-2282-_____, and
ER15-2283-_____**

**Energy Imbalance Market Enforcement of Transmission
Constraints – PacifiCorp
Informational Filing and Request for Privileged Treatment**

Dear Secretary Bose:

The California Independent System Operator Corporation (CAISO) hereby submits its informational report on the Energy Imbalance Market (EIM) enforcement of transmission constraint for PacifiCorp, pursuant to an order issued by the Commission on November 19, 2015.¹ The Commission noted in its order that if “the enforcement of internal transmission constraints presents reliability or other operational concerns,” the Commission expects the CAISO and PacifiCorp to inform the Commission of the problems, any solutions, and implications for the EIM.

The CAISO is seeking privileged treatment of Attachment A pursuant to 18 C.F.R. § 385.112 and the Freedom of Information Act, 5 U.S.C. 552. Attachment A contains information related to the full network model. Furthermore, the enforcement of transmission constraints should be treated as sensitive information and protected as Critical Energy Infrastructure because it provides details regarding the transmission of energy and the vulnerabilities of the system, and should be withheld from public disclosure.

¹ *California Ind. Sys. Operator Corp.*, 153 FERC ¶ 61,206 (2015).

Honorable Kimberly D. Bose
March 29, 2017
Page 2

Please contact the undersigned with any questions regarding the foregoing.

Respectfully submitted,

By: /s/ Anna A. McKenna

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California ISO

**Energy Imbalance Market
Enforcement of Transmission Constraints**

PacifiCorp

March 29, 2017

I. Introduction and Background

On November 19, 2015, the Federal Energy Regulatory Commission (Commission) issued an order, accepting in part, subject to condition, and rejecting in part, Nevada Power Company's and Sierra Pacific Power Company's (collectively, "NV Energy"), and PacifiCorp's (together with NV Energy, "Berkshire EIM Sellers") market-based rate tariff revisions that reflect their participation in the Energy Imbalance Market (EIM) administered by the California Independent System Operator Corporation (CAISO).¹ The Commission allowed the Berkshire EIM Sellers to participate in the EIM at market-based rates on the condition that, (1) the Berkshire EIM Sellers offer their units that are participating in the EIM into the EIM at or below each unit's Default Energy Bid, and (2) the Berkshire EIM Sellers facilitate the CAISO's enforcement of all internal transmission constraints in the PacifiCorp and NV Energy balancing authority areas.

The Commission accepted the market-based rate tariffs, subject to condition, to become effective on the day that NV Energy began participation in the EIM. NV Energy began participating in the EIM December 1, 2015, pursuant to the conditions in the November 19 Order.

The Commission required that the Berkshire EIM Sellers facilitate the CAISO's enforcement of all internal transmission constraints in the PacifiCorp and NV Energy balancing authority areas. The Commission also noted that if "the enforcement of internal transmission constraints presents reliability or other operational concerns," the Commission expects that the CAISO, PacifiCorp, and NV Energy would inform the Commission of the problems, any solutions, and implications for the EIM.

II. Principles for Enforcing Transmission Constraints

PacifiCorp facilitates the enforcement of all transmission constraints in its two balancing authority areas, PacifiCorp East (sometimes referred to as "PACE") and PacifiCorp West (sometimes referred to as "PACW"), consistent with the same principles the CAISO applies in enforcing transmission constraints within its own balancing authority area. These principles are reflected in Section 27.5.6 of the CAISO tariff. While the responsibility of which transmission constraints are enforced in the EIM remain with the EIM Entity in its role as a

¹ *California Ind. Sys. Operator Corp.*, 153 FERC ¶ 61,206 (2015) (November 19 Order).

balancing authority area,² PacifiCorp has generally adopted the principles in Section 27.5.6 of the CAISO tariff to manage the enforcement of transmission constraints within its balancing authority areas, as further explained in the “Informational Report” section below.

Section 27.5.6 of the CAISO tariff generally requires that the CAISO manage the enforcement of transmission constraints consistent with good utility practice, to ensure, to the extent possible, that the market model used in each market accurately reflects all the factors that contribute to actual real-time flows on the controlled grid. This is necessary to ensure that the market clearing results are better aligned with actual physical conditions on the controlled grid. CAISO tariff Section 27.5.6 further specifies the conditions under which the CAISO may enforce, not enforce, or adjust a transmission constraint in operating the markets consistent with this overall policy. PacifiCorp has adopted the following specific principles from Section 27.5.6 of the CAISO tariff with regards to how it operates as a balancing authority:³

(a) The CAISO may enforce, not enforce, or adjust flow-based Transmission Constraints, including Nomograms and Contingencies, if the CAISO observes that the CAISO Markets produce or may produce results that are inconsistent with observed or reasonably anticipated conditions or infeasible market solutions either because (a) the CAISO reasonably anticipates that the CAISO Market run will identify Congestion that is unlikely to materialize in Real-Time even if the Transmission Constraint were to be ignored in all the markets leading to Real-Time, or (b) the CAISO reasonably anticipates that the CAISO Market will fail to identify Congestion that is likely to appear in the Real-Time. The CAISO does not make such adjustments to intertie Scheduling Limits.

. . . .

(c) The CAISO may not enforce Transmission Constraints, including Nomograms and Contingencies, if it has determined it lacks sufficient visibility to conditions on transmission facilities

² Pursuant to Section 29.4(a)(1), 29.4(a)(3)(D)-(E), and Section 29.4(b)(1)(B) of the CAISO tariff, each EIM Entity remains individually responsible for reliability of the transmission system they control. The CAISO systems are prepared to enforce any modeled constraints.

³ See Section 27.5.6 of the CAISO tariff.

necessary to reliably ascertain constraint flows required for a feasible, accurate and reliable market solution.

(d) For the duration of a planned or unplanned Outage, the CAISO may create and apply alternative Transmission Constraints, including Nomograms and Contingencies that may add to or replace certain originally defined constraints.

(e) The CAISO may adjust Transmission Constraints, including Nomograms and Contingencies, for the purpose of setting prudent operating margins consistent with good utility practice to ensure reliable operation under anticipated conditions of unpredictable and uncontrollable flow volatility consistent with the requirements of Section 7.

In order to provide as much clarity and transparency as possible for PacifiCorp's transmission customers, PacifiCorp is adding to its EIM business practice: (1) the principles from the CAISO tariff Section 27.5.6 that apply to PacifiCorp's operations and practices as a balancing authority; and (2) the classifications of reasons for not enforcing transmission constraints. The EIM business practice revisions are currently undergoing internal review and are expected to be published mid-April 2017, for stakeholder comment for 10 business days. PacifiCorp expects to publish the effective version of the revised EIM business practice by the end of April 2017.

III. Informational Report

Pursuant to the November 19 Order, the CAISO and PacifiCorp have been coordinating on the enforcement of transmission constraints in the PacifiCorp West and PacifiCorp East balancing authority areas. On November 1, 2014, when PacifiCorp became the first EIM participant, there were no transmission constraints enforced initially, as PacifiCorp had not developed standard implementation procedures for the EIM, given that they had no prior experience with operating within the context of the EIM. Gradually, as PacifiCorp gained operational experience and understanding of how the EIM was functioning within its balancing authority areas, PacifiCorp started to enforce the constraints beginning March 2015, and the majority of constraints, subject to the exclusion criteria discussed further below, were enforced by the end of 2015. As of today, PacifiCorp supports enforcement of the constraints for all elements, except for those that meet the exclusion criteria detailed below. Attachment A

provides the current list of all constraints that PacifiCorp has modeled in its system. Attachment A also identifies whether each constraint is currently enforced or not, and for those constraints not enforced, a classification of the reason the constraint is not enforced.⁴

Transmission elements defined in PacifiCorp's network model include, but are not limited to, transmission corridors, 500kV lines, 345kV lines, 230kV lines, 161kV lines, 138kV lines, 115kV lines, 69kV lines, 46kV lines, series capacitors, transformers, and phase shifters. As of the date of this report, PacifiCorp's network model consists of a total of 2,052 transmission elements, 558 of which are active and enforced as transmission constraints, and 1,494 elements which have not been activated. Table 1 provides a breakdown of this data.

Table 1

Total active elements:	558
Total not activated:	1494
Total elements:	2052

Table 2 below summarizes the percentage of transmission elements that are not enforced as constraints in the PacifiCorp's balancing authority areas and the categories PacifiCorp applies to determine if the element should be excluded from activation:

⁴ The CAISO treats information related to the full network model and the enforcement of transmission constraints as sensitive and protected pursuant to a Non-Disclosure Agreement. See Section 6.5.10. Accordingly, the CAISO requests privileged treatment of the information provided in Attachment A pursuant to 18 C.F.R § 388.112 as information that is treated as Critical Energy Infrastructure Information exempt from the disclosure requirements under the Freedom of Information Act, 5 U.S.C. 552, and should be withheld from public disclosure. The information contained in those attachments is Critical Energy Infrastructure Information because it provides details regarding the transmission of energy and vulnerabilities on the system that can be useful to a person in planning an attack on the critical infrastructure.

Table 2

Category		Percentage
1.	Transmission Lines used for Distribution	34.6%
2.	Multiple Line Sections	10.0%
3.	Phase Shifter Transformers	0.5%
4.	Load-Serving/Step-Up Transformers	5.7%
5.	Remedial Action Schemes (RAS)	0.2%
6.	Radial Transmission	12.0%
7.	Transmission Corridors and Intertie	7.7%
8.	External	0.1%
9.	Pseudo Transmission Lines	1.8%
10.	Under Construction	0.1%

The following are the descriptions of the categories PacifiCorp applies to transmission elements to determine if the element should be excluded from activation as a transmission constraint. PacifiCorp has assigned each of the transmission elements based on the predominant characteristics of the elements, although it should be noted that some elements may have characteristics of more than one identified category:

1. Transmission Lines used for Distribution: Distribution lines serve load off of the transmission system on one or more radial lines. This characteristic ensures that the flows on the line will never exceed the load or that the flows on the line will affect the Bulk Electric System (BES). Generation re-dispatch is the only tool available to the EIM to resolve transmission constraints and would not be an effective tool for this category because the flow on the distribution lines always equals the load. Accordingly, constraint activation is not necessary for this category of elements.
2. Multiple Line Sections: A single transmission line between two substations can be split into multiple line segments by load taps or other transmission equipment. In such cases, PacifiCorp rates the transmission line equal to the most limiting element (e.g., a line conductor, relay, series capacitor/reactor, etc.). The market monitors the flow on the transmission line at the “from” and “to”

substations, which designate the ends of the transmission line, and which are rated according to the most limiting element in the transmission line. Accordingly, activating all line segments of a single transmission line is unnecessary and to do so would impose significant operational burden on the balancing authority because of the additional operational monitoring and balancing actions that would be required in the event the market model needs the limits on all of those line segments to be conformed instead of a single segment.

3. Phase Shifter Transformers: On transmission lines that contain phase shifters, the primary means of controlling flow by the balancing authority is through the use of the phase shifter transformer. The CAISO does not incorporate phase shifter transformers into its market re-dispatch capabilities. Because phase shifter control is unavailable to the market but is an important tool for PacifiCorp, it should not be activated as a constraint. Activating such an element would result in the market attempting to unnecessarily dispatch generation to offload the element, when the phase shifter transformer is the best tool available to PacifiCorp for managing changing system conditions.
4. Load-Serving/Step-Up Transformers: Load-serving transformers are not subjected to constraint enforcement because the flow on these devices will always be equal to the load behind the transformer. As such, the EIM does not have the ability to re-dispatch generation to adjust flow on these transformers. Generator step-up transformers are also not subjected to constraint enforcement as they are limited by the maximum generation limit of the resource associated with the generator step-up transformer. For three-winding transformers consisting of a high, low, and tertiary winding, the tertiary winding element is not subjected to constraint enforcement as it is primarily used for discrete auxiliary load or other transmission equipment and because the high or low winding will be subject to constraint enforcement.
5. Remedial Action Schemes (RAS): Some RAS are not able to be effectively modeled in the contingency analysis of the market model because the RAS is more complex than what current modeling capability can accommodate. In the event that a RAS can be properly modelled in the contingency analysis the limit is activated, however some RAS are prohibitively complex to model and remain inactivated as a market constraint. These lines remain protected by the associated RAS.

6. Radial Transmission: Transmission lines that are radial, either to load, generation, or are external to the EIM (but within PacifiCorp's balancing authority areas) where the market does not control the generation on one side of the constraint, cannot or should not be managed through market dispatch. These constraints should not be activated to avoid attempts by the market to correct external constraints that are not part of the EIM.
7. Transmission Corridors and Intertie: These are the elements which are typically operated through a combination of total transmission capability limits or scheduling limits. The base schedules submitted to the market take into account these limits and are therefore not subjected to constraint enforcement.
8. External: These are the line elements that are external to PacifiCorp's balancing authority areas and should not have the constraints enforced.
9. Pseudo Transmission Lines: These are lines which are modeled purely for network model reasons and are not physically present in the balancing authority areas. Examples of these elements include a shunt reactor or series reactor where it is not possible to have real-time flow measurements. These elements should not be activated because the measurement of the device is going to be the same as the line conductor where the device is attached.
10. Under construction: These elements are not operational yet.

In addition to constraints related to physical transmission elements, within the PacifiCorp system there are conditions where the most limiting constraint is not physical but contractual. These scenarios exist primarily within PacifiCorp West and are the result of multiple pseudo-tied loads and resources. PacifiCorp has defined and enforced some of these constraints in the CAISO market model and is working with the CAISO to consider enforcement of additional contractual limitations.

IV. Conclusion

PacifiCorp and the CAISO have worked together to ensure that all appropriate transmission constraints are enforced, and believe that the exclusion of certain transmission constraints, as explained above, is appropriate, just, and reasonable in order to avoid reliability and operational issues and concerns.

Informational Filing: Energy Imbalance Market – Enforcement of Transmission Constraint

March 29, 2017

California Independent System Operator Corporation

Attachment A

Confidential Constraints Table

**ATTACHMENT CONSISTS OF PRIVILEGED MATERIAL
CRITICAL ENERGY INFRASTRUCTURE INFORMATION
REDACTED PURSUANT TO 18 C.F.R. § 388.112**

CERTIFICATE OF SERVICE

I certify that I have served the foregoing document upon the parties listed on the official service list in the captioned proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 29th day of March, 2017.

/s/ Grace Clark

Grace Clark

Document Content(s)

PUBLIC_PAC_TransmissionConstraint_Report.PDF.....1-12

EXHIBIT 8

NV Energy Companies Enforcement of Transmission Constraints Report (November 10, 2016)



California ISO

**Energy Imbalance Market
Enforcement of Transmission Constraints**

NV Energy Inc.

November 10, 2016

I. Introduction and Background

On November 19, 2015, the Federal Energy Regulatory Commission (Commission) issued an order, accepting in part, subject to condition, and rejecting in part Nevada Power Company's and Sierra Pacific Power Company's (collectively, NV Energy), and PacifiCorp's (together with NV Energy, Berkshire EIM Sellers) market-based rate tariff revisions that reflect their participation in the Energy Imbalance Market (EIM) administered by the California Independent System Operator Corporation (CAISO).¹ The Commission allowed the Berkshire EIM Sellers to participate in the EIM at market-based rates on the condition that: (1) the Berkshire EIM Sellers offer their units that are participating in the EIM into the EIM at or below each unit's Default Energy Bid; and (2) the Berkshire EIM Sellers facilitate CAISO's enforcement of all internal transmission constraints in the PacifiCorp and NV Energy balancing authority.

The Commission accepted the market-based rate tariffs, subject to condition, to become effective on the day that NV Energy began participation in the CAISO EIM. NV Energy began to participate in the EIM on December 1, 2015, pursuant to the conditions in the November 19 Order.

The Commission required that the Berkshire EIM Sellers facilitate the CAISO's enforcement of all internal transmission constraints in the PacifiCorp and NV Energy balancing authority areas. The Commission also noted that if the "the enforcement of internal transmission constraints presents reliability or other operational concerns," they expected that the CAISO, PacifiCorp, and NV Energy would inform the Commission of the problems, any solutions, and implications for the EIM.

II. Informational Report

NV Energy facilitates the enforcement of all transmission constraints in its balancing authority area, consistent with the same principles the CAISO applies in enforcing transmission constraints within its own balancing authority area. These principles are reflected in Section 27.5.6 of the CAISO Tariff. While the responsibility of which transmission constraints are enforced in the EIM remain with the EIM Entity, NV Energy has adopted the principles in Section 27.5.6 of

¹ *Cal. Ind. Sys. Operator Corp.*, 153 FERC ¶ 61,206 (2015) (November 19 Order).

the CAISO Tariff in managing the enforcement of transmission constraints within their balancing authority area.²

Section 27.5.6 generally requires that the CAISO manage the enforcement of transmission constraints consistent with good utility practice, to ensure, to the extent possible, that the market model used in each market accurately reflects all the factors that contribute to actual real-time flows on the controlled grid. This is necessary to ensure that the market clearing results are better aligned with actual physical conditions on the controlled grid. Section 28.5.6 further specifies the conditions under, which the CAISO may enforce, not enforce, or adjust a transmission constraint in operating the markets consistent with this overall policy. Specifically:³

(a) The CAISO may enforce, not enforce, or adjust flow-based Transmission Constraints, including Nomograms and Contingencies, if the CAISO observes that the CAISO Markets produce or may produce results that are inconsistent with observed or reasonably anticipated conditions or infeasible market solutions either because (a) the CAISO reasonably anticipates that the CAISO Market run will identify Congestion that is unlikely to materialize in Real-Time even if the Transmission Constraint were to be ignored in all the markets leading to Real-Time, or (b) the CAISO reasonably anticipates that the CAISO Market will fail to identify Congestion that is likely to appear in the Real-Time. The CAISO does not make such adjustments to intertie Scheduling Limits.

(b) The CAISO may enforce or not enforce Transmission Constraints, including Nomograms and Contingencies, if the CAISO has determined that non-enforcement or enforcement, respectively, of such Transmission Constraints may result in the unnecessary pre-commitment and scheduling of use-limited resources.

(c) The CAISO may not enforce Transmission Constraints, including Nomograms and Contingencies, if it has determined it lacks sufficient visibility to conditions on transmission facilities necessary to reliably ascertain constraint flows required for a feasible, accurate and reliable market solution.

² Pursuant to Section 29.4(a)(1), 29.4(a)(3)(D)-(E), and 29.4(b)(1)(B) each EIM Entity remains individually responsible for reliability of the transmission system they control. The CAISO systems are prepared to enforce any modeled constraints.

³ See Section 27.5.6 of the CAISO Tariff.

(d) For the duration of a planned or unplanned Outage, the CAISO may create and apply alternative Transmission Constraints, including Nomograms and Contingencies, that may add to or replace certain originally defined constraints.

(e) The CAISO may adjust Transmission Constraints, including Nomograms and Contingencies, for the purpose of setting prudent operating margins consistent with good utility practice to ensure reliable operation under anticipated conditions of unpredictable and uncontrollable flow volatility consistent with the requirements of Section 7.

(f) The CAISO may adjust Transmission Constraints for the purpose of reserving internal transfer capability in the Day-Ahead or Real-Time Markets, based on anticipated conditions on the natural gas delivery system, to reliably serve load in specific geographic regions of the CAISO Balancing Authority Area, or to assure deliverability of Ancillary Services. The CAISO may or may not release such reserved internal transfer capability based on natural gas and electric system conditions, or observed market inefficiencies. Upon determining that an adjustment is necessary, the CAISO will issue a notification specifying the amount of the adjustment.

Pursuant to the November 19 Order, the CAISO, and NV Energy have been coordinating in the enforcement of transmission constraints in the NV Energy balancing authority area. NV Energy advised the CAISO that as of December 18, 2015, all elements that are 138 kV and above, and subject to constraint enforcement, should be enforced without exception. NV Energy further advised the CAISO that as of February 11, 2016, all elements that are over 100 kV, and subject to constraint enforcement, should be enforced without exception. NV Energy has not since applied any exceptions to any of the elements in the model. Today, NV Energy supports enforcement of the constraints for all elements above 100 kV that are subject to enforcement. As explained further below, not all elements are subject to enforcement of a constraint. Attachment A provides the list of all constraints NV Energy has modeled in their system and identifies whether each constraint is currently enforced or not, together with a classification of the reason for the constraints not enforced.⁴

⁴ The CAISO treats information related to the full network model and the enforcement of transmission constraints as sensitive and protected pursuant to a Non-Disclosure Agreement. See Sections 6.5.1. Accordingly, the CAISO requests privileged treatment of the information provided in Attachments A pursuant to 18 C.F.R § 388.112 as information that is treated as

Table 1 below summarizes the information of the constraint enforced in NV Energy balancing authority area, including below 100kV elements. As a percentage of elements over 100 kV that are subject to enforcement, 100% of all such elements are flagged for enforcement.

Type of Constraint	Not Enforced	Enforced
Transmission Lines	39.8%	59.4%
Phase shifters	100%	0%
Transmission Corridors	100%	0%
Transformers	52.6%	46.4%

Reasons for why NV Energy does not enforce some the constraints include:

1. Transmission lines. There are multiple voltage levels used in the transmission system, such as 500KV, 345kV, 230KV, 138KV, 120kV, 69KV, 60kV and 55kV. Any transmission line for a voltage level under 100 KV is not enforced in the NV Energy area. This voltage criteria applies consistent with NV Energy's statement in its compliance filing submitted December 21, 2015 in Docket Nos. ER15-2281 and -2282, in which it represented that it would review constraints enforcement for all elements 100 kV and above. The limit reflects the fact that all facilities on the NV Energy system less than 100 kV are distribution facilities. Also, any transmission line that links NV Energy with other balancing authority areas, commonly referred as intertie elements, are not enforced – either because these constraints are managed as scheduled paths or enforcing them as flow-based constraints will not provide any mechanism to the market to manage the flows since they are defined with tie schedules. Certain lines in the model are not NV Energy's and/or NV Energy does not operate the line; therefore, NV Energy cannot activate the constraint for enforcement.
2. Phase shifters. Phase shifters are typically not subject to enforcement of a constraint because constraints are actively managed through phase shifter operation.

Critical Energy Infrastructure Information exempt from the disclosure requirements under the Freedom of Information Act, 5 U.S.C. 552, and should be withheld from public disclosure. The information contained in those attachments is Critical Energy Infrastructure Information because it provides details regarding the transmission of energy and vulnerabilities on the system that can be useful to a person in planning an attack on the critical infrastructure.

3. Transmission corridors. These are typically elements linking NV Energy area with the CAISO area and as such, they are defined more like intertie limits. Intertie limits are controlled through scheduling limits and are therefore not enforced through constraints enforcement.
4. Transformers. All transformers at 100 kV and above, and that are elements of NV Energy's Transmission System are subject to constraints enforcement. About a half of transformers in the NV Energy balancing authority area are not enforced: Load serving transformers are not subject to constraints enforcement because they are distribution level elements, and the market operator does not have any ability to control resources to enforce constraints. Generator step up transformers are also not subject to constraints enforcement because they are generator elements subject to limitation through the operation of the generator. Regulators and tap changers are likewise not subject to constraint enforcement because they are subject to operational limitations of the transmission element to which they belong.

The CAISO and NV Energy have been working together since before NV Energy commenced EIM operations to ensure that the proper transmission constraints are enforced. As noted above, NV Energy performed its analysis and advised the CAISO in early February 2016 of its intention that all elements above 100 kV should be subject to enforcement of their constraints. Later in the year, with the help of the Department Market Monitoring, NV Energy and CAISO discovered that that certain constraints were not being enforced. After investigation of the issue, the CAISO and NV Energy determined that the CAISO had not identified in all cases the voltage of the particular constraints due to naming conventions. While both NV Energy and the CAISO believed that the parties had performed all steps necessary to enforce all the requested constraints, some constraints were left unenforced since December 1, 2015. Over the summer 2016, NV Energy and the CAISO worked together and were able to clearly identify each element in the model, whether each element should be subject to constraint enforcement, and the reasons why certain elements should not be activated based on one of the reasons above. This process required some time to compare various updates to the model and generate the complete list of elements, and discuss the reasons enforcement did nor did not apply. Through multiple exchanges, the missing constraints were incrementally enforced to have the full set enforced in September 2016.

Since the implementation of the EIM for NV Energy in December 2015, there has been very infrequent transmission constraints binding in NV Energy balancing authority area, including for the constraints enforced as of or shortly after commencement of EIM operations. Almost all elements overlooked for enforcement in early 2016 were 120 kV or less. Furthermore, the constraint enforcement is designed to trigger price mitigation during times of constraint. Because NV Energy is required to bid at its default energy bid, it is subject to that mitigation regardless of whether the constraint is enforced or not. Therefore, the unintended delay on enforcing constraints for certain relevant elements – unknown to NV Energy or the CAISO at the time – should not have undermined the mitigation that the constraint enforcement is designed to enable.

Informational Filing: Energy Imbalance Market – Enforcement of Transmission Constraint

November 10, 2016

California Independent System Operator Corporation

Attachment A

Confidential Constraints Table

[ATTACHMENT CONSISTS OF PRIVILEGED MATERIAL REDACTED

PURSUANT TO 18 C.F.R. 388.112]

CERTIFICATE OF SERVICE

I certify that I have served the foregoing document upon the parties listed on the official service list in the captioned proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 10th day of November, 2016.

/s/ Grace Clark
Grace Clark

Document Content(s)

EIM_Transmission_Constraint_Informational_Report.PDF.....1-9

EXHIBIT 9

CAISO Q2 EIM Benefits Report (July 31, 2017)

Western EIM Benefits Report

Second Quarter 2017

July 31, 2017

Table of Contents

<u>EXECUTIVE SUMMARY</u>	3
<u>EIM BENEFITS IN Q2 2017</u>	4
<u>INTER-REGIONAL TRANSFERS</u>	4
<u>REDUCED RENEWABLE CURTAILMENT AND GHG REDUCTIONS</u>	8
<u>FLEXIBLE RAMPING PROCUREMENT DIVERSITY SAVINGS</u>	8
<u>CONCLUSION</u>	10

Executive Summary

This report presents the benefits associated with participation in the western Energy Imbalance Market (EIM) for the second quarter of 2017. The benefits include cost savings and the use of surplus renewable energy to displace conventional generating resources.

The estimated gross benefits for April, May and June 2017 are \$39.52 million, bringing the total benefits of EIM to \$213.24 million since the California Independent System Operator (ISO) expanded its real-time market to balancing authority areas outside the ISO in November 2014.

The report also shows that EIM is helping to displace less-clean energy supplies with surplus renewable energy that otherwise may have been curtailed.¹ In Q2, the EIM used 67,055 MWh of surplus renewable energy to displace 28,700 metric tons of CO₂ emissions.

The benefit calculation methodology is described in a separate document.² This analysis demonstrates the real-time market's ability to select the most economic resources across the ISO, PacifiCorp, NVE, APS and PSE balancing authority areas (BAAs), which comprise the EIM footprint. The benefits quantified in this report fall into three categories and were described in earlier studies:³

- ***More efficient dispatch, both inter-and intra-regional, in the Fifteen-Minute Market (FMM) and Real-Time Dispatch (RTD). Q2 estimated savings = \$39.52 million.***
- ***Reduced renewable energy curtailment. Q2 estimated reduction = 67,055 MWh displacing approximately 28,700 metric tons of CO₂.***
- ***Reduced flexibility ramping reserves needed in all balancing authority areas. Q2 reduction = 426 MW – 482 MW in the upward direction and 504 MW – 521 MW in the downward direction.***

¹ The GHG emission reduction reported is associated with the avoided curtailment only. The current market process and counterfactual methodology cannot differentiate the GHG emissions resulting from serving ISO load via the EIM versus dispatch that would have occurred external to the ISO without the EIM. For more details, see <http://www.caiso.com/Documents/GreenhouseGasEmissionsTrackingReport-FrequentlyAskedQuestions.pdf>

² EIM Quarterly Benefit Report Methodology, https://www.caiso.com/Documents/EIM_BenefitMethodology.pdf

³ PacifiCorp-ISO, Energy Imbalance Markets Benefits, <http://www.caiso.com/Documents/PacifiCorp-ISOEnergyImbalanceMarketBenefits.pdf>

Background

The EIM began financially-binding operation on November 1, 2014 by optimizing resources across the ISO and PacifiCorp BAAs. NV Energy, operating in Nevada, began participating in December 2015. Arizona Public Service and Puget Sound Energy began operations October 1, 2016. The EIM footprint now includes portions of Arizona, California, Idaho, Nevada, Oregon, Utah, Washington, and Wyoming. The EIM facilitates renewable resource integration and increases reliability by sharing information between balancing authorities on electricity delivery conditions across the EIM region.

The ISO began publishing quarterly EIM benefit reports in January 2015. Prior reports can be accessed at <https://www.westerneim.com/Pages/About/QuarterlyBenefits.aspx>

EIM Benefits in Q2 2017

Table 1 shows the estimated EIM gross benefits by each region per month. The monthly savings presented in the table show \$13.73 million for April, \$13.71 million for May, and \$12.08 million for June with a total estimated benefit of \$39.52 million.

The EIM benefits reported here are calculated based on available data. Intervals without complete data are excluded in the calculation. The intervals excluded due to unavailable data are normally within a few percent of the total intervals.

* Due to special circumstances, the benefits for NV Energy for June are not included at this time, pending further data verification.

Region	April	May	June	Total
APS	\$2.87	\$2.54	\$2.72	\$8.13
ISO	\$3.42	\$5.23	\$6.84	\$15.49
NV Energy	\$2.37	\$2.25	*	\$4.62
PacifiCorp	\$3.94	\$2.97	\$1.90	\$8.81
PSE	\$1.13	\$0.72	\$0.62	\$2.47
Total	\$13.73	\$13.71	\$12.08	\$39.52

Table 1: Second quarter 2017 benefits in millions USD

Inter-Regional Transfers

A significant contributor to EIM benefits is transfers across balancing areas, providing access to lower cost supply, while factoring in the cost of compliance with greenhouse gas (GHG) emissions regulations when energy is transferred into the ISO. As such, the transfer volumes are a good indicator of a portion of the benefits attributed to the EIM. Transfers can take place in both the Fifteen-Minute Market and Real-Time Dispatch (RTD).

Generally, transfer limits are based on transmission and interchange rights that participating balancing authority areas make available to the EIM, with the exception of the PacifiCorp West (PACW)-ISO

transfer limit in RTD. The RTD transfer capacities between PACW and the ISO are determined based on the allocated dynamic transfer capability driven by system operating conditions. This report does not quantify a BAA's opportunity cost that the utility considered when using its transfer rights for the EIM.

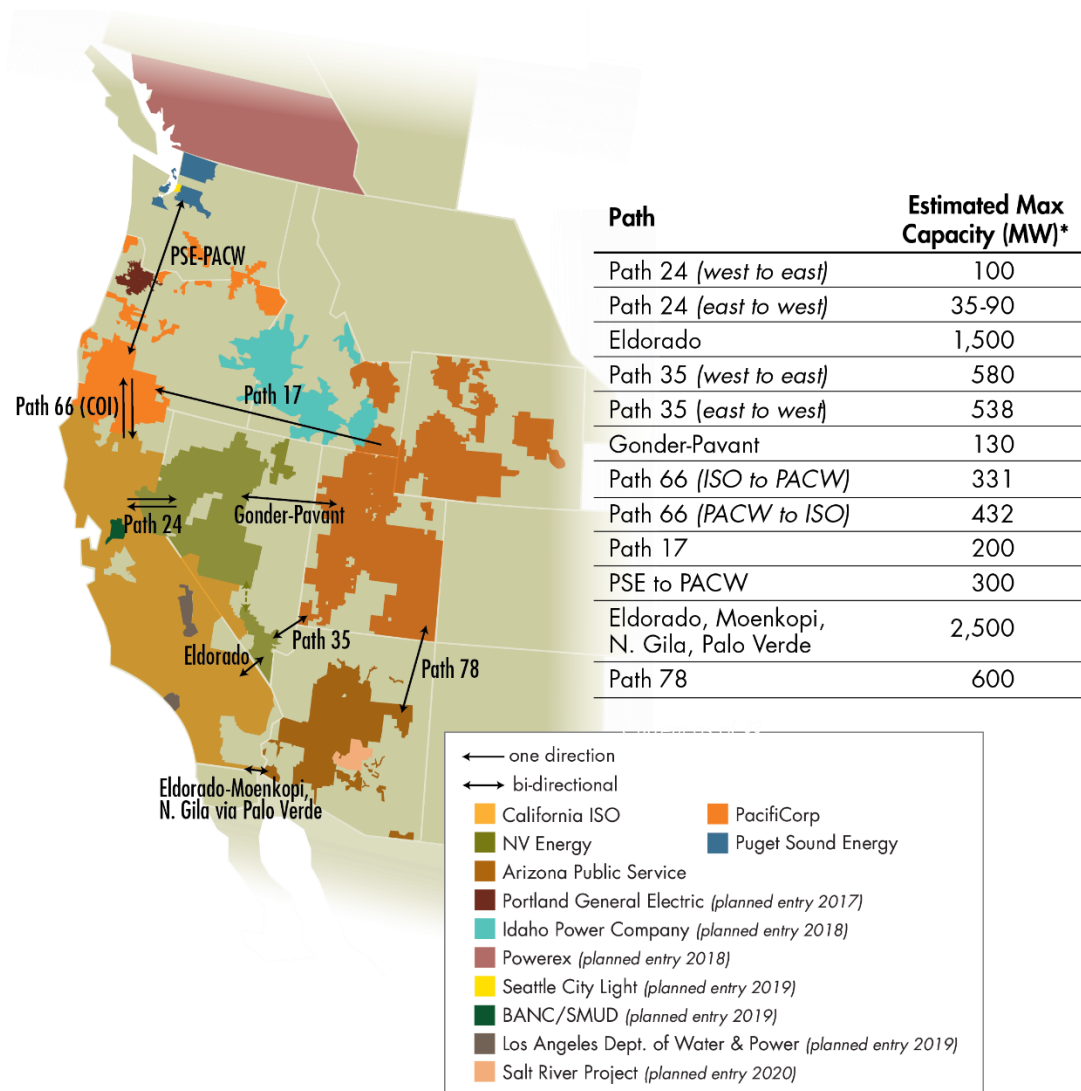
Table 2 provides the 15-minute and 5-minute EIM transfer volumes with base schedule transfers excluded. The EIM entities submit inter-BAA transfers in their base schedules. The benefits quantified in this report are only attributable to the transfers that occurred through the EIM. The benefits do not include any transfers attributed to transfers submitted in the base schedules that are scheduled prior to the start of the EIM.

The transfer from BAA_x to BAA_y and the transfer from BAA_y to BAA_x are separately reported. For example, if there is a 100 MWh transfer during a 5-minute interval, in addition to a base transfer from ISO to NVE, it will be reported as 100 MWh from _BAA ISO to _BAA NEVP, and 0 MWh from _BAA NEVP to _BAA ISO in the opposite direction. The 15-minute transfer volume is the result of optimization in the 15-minute market using all bids and base schedules submitted into the EIM. The 5-minute transfer volume is the result of optimization using all bids and base schedules submitted into EIM, based on unit commitments determined in the 15-minute market optimization. The maximum transfer capacities between EIM entities are shown in Graph 1 below.

Year	Month	from_BAA	to_BAA	15m EIM transfer (15m - base)	5m EIM transfer (5m - base)
2017	April	AZPS	CISO	83,470	41,168
		AZPS	NEVP	6,541	6,549
		AZPS	PACE	62,978	68,357
		CISO	AZPS	132,803	126,281
		CISO	NEVP	162,592	183,217
		CISO	PACW	28,768	34,942
		NEVP	AZPS	4,209	5,612
		NEVP	CISO	29,482	30,579
		NEVP	PACE	90,185	102,465
		PACE	AZPS	72,276	32,182
		PACE	NEVP	25,229	27,159
		PACE	PACW	15,028	23,442
		PACW	CISO	34,792	47,432
		PACW	PSEI	61,724	62,992
		PSEI	PACW	4,652	6,597

Year	Month	from_BAA	to_BAA	15m EIM transfer (15m - base)	5m EIM transfer (5m - base)
2017	May	AZPS	CISO	89,639	46,813
		AZPS	NEVP	12,384	6,173
		AZPS	PACE	52,991	58,765
		CISO	AZPS	135,289	157,734
		CISO	NEVP	177,020	219,990
		CISO	PACW	30,233	30,333
		NEVP	AZPS	3,199	6,206
		NEVP	CISO	20,393	24,108
		NEVP	PACE	120,252	144,687
		PACE	AZPS	91,860	45,628
		PACE	NEVP	20,979	18,093
		PACE	PACW	8,861	22,925
		PACW	CISO	37,958	45,026
		PACW	PSEI	30,053	32,338
		PSEI	PACW	11,706	13,584
2017	June	AZPS	CISO	114,534	74,825
		AZPS	NEVP	24,814	18,801
		AZPS	PACE	44,383	49,111
		CISO	AZPS	110,592	119,260
		CISO	NEVP	155,376	212,704
		CISO	PACW	27,734	26,913
		NEVP	AZPS	2,273	3,845
		NEVP	CISO	22,169	24,238
		NEVP	PACE	135,951	168,554
		PACE	AZPS	113,054	72,227
		PACE	NEVP	9,866	7,823
		PACE	PACW	15,598	22,526
		PACW	CISO	31,535	43,313
		PACW	PSEI	15,723	18,140
		PSEI	PACW	29,323	33,838

Table 2: Energy transfers (MWh) in the FMM and RTD for the second quarter 2017



Graph 1: Estimated maximum transfer capacity

Reduced Renewable Curtailment and GHG Reductions

The EIM benefit calculation includes the economic benefits that can be attributed to avoided renewable curtailment within the ISO. If not for energy transfers facilitated by the EIM, some renewable generation located within the ISO would have been curtailed via either economic or exceptional dispatch. The total avoided renewable curtailment volume in MWh for Q2 2017 was calculated to be 24,753 MWh (April) + 22,517 MWh (May) + 19,785 MWh (June) = 67,055 MWh total.

The environmental benefits of avoided renewable curtailment are significant. Under the assumption that avoided renewable curtailments displace production from other resources at a default emission rate of 0.428 metric tons CO₂/MWh, avoided curtailments displaced an estimated 28,700 metric tons of CO₂ for Q2 2017. Avoided renewable curtailments also may have contributed to an increased volume of renewable credits that would otherwise have been unavailable. This report does not quantify the additional value in dollars associated with this benefit. Total estimated reductions in the curtailment of renewable energy along with the associated reductions in CO₂ are shown in Table 3.

Year	Quarter	MWh	Eq. Tons CO2
2015	1	8,860	3,792
	2	3,629	1,553
	3	828	354
	4	17,765	7,521
2016	1	112,948	48,342
	2	158,806	67,969
	3	33,094	14,164
	4	23,390	10,011
2017	1	52,651	22,535
	2	67,055	28,700
Total		479,026	204,941

Table 3: Total reduction in curtailment of renewable energy along with the associated reductions in CO₂

Flexible ramping procurement diversity savings

The EIM facilitates procurement of flexible ramping capacity in the FMM to address variability that may occur in the RTD. Because variability across different BAAs may happen in opposite directions, the flexible ramping requirement for the entire EIM footprint can be less than the sum of individual BAA's requirements. This difference is known as flexible ramping procurement diversity savings. Starting in November 2016, the ISO replaced the flexible ramping constraint with flexible ramping products that provide both upward and downward ramping. The minimum and maximum flexible ramping requirements for each BAA and for each direction are listed in Table 4.

Year	Month	BAA	Direction	Minimum requirement	Maximum requirement
2017	April	AZPS	up	18	235
		CISO	up	108	1,000
		NEVP	up	4	197
		PACE	up	88	300
		PACW	up	36	150
		PSEI	up	0	135
		ALL EIM	up	0	1,799
		AZPS	down	30	241
		CISO	down	92	1,000
		NEVP	down	7	207
		PACE	down	99	300
		PACW	down	40	175
		PSEI	down	0	135
		ALL EIM	down	3	1,200
2017	May	AZPS	up	30	260
		CISO	up	81	1,000
		NEVP	up	14	155
		PACE	up	124	300
		PACW	up	8	150
		PSEI	up	0	135
		ALL EIM	up	0	1,756
		AZPS	down	18	241
		CISO	down	124	1,000
		NEVP	down	0	157
		PACE	down	84	300
		PACW	down	47	175
		PSEI	down	24	135
		ALL EIM	down	51	1,200
2017	June	AZPS	up	23	243
		CISO	up	171	1,000
		NEVP	up	17	221
		PACE	up	80	300
		PACW	up	8	150
		PSEI	up	16	135
		ALL EIM	up	10	1,800
		AZPS	down	7	228
		CISO	down	200	1,000
		NEVP	down	0	228
		PACE	down	63	300
		PACW	down	33	175
		PSEI	down	18	135
		ALL EIM	down	91	1,200

Table 4: Flexible ramping requirements

The flexible ramping procurement diversity savings for all the intervals averaged over a month are shown in Table 5. The percentage savings is the average MW savings divided by the sum of the four individual BAA requirements.

	April		May		June	
Direction	Up	Down	Up	Down	Up	Down
Average MW saving	426	509	469	521	482	504
Sum of BAA requirements	1,210	1,303	1,242	1,319	1,245	1,275
Percentage savings	35%	39%	38%	39%	39%	39%

Table 5: Flexible ramping procurement diversity savings for Second quarter 2017

Flexible ramping capacity may be used in RTD to handle uncertainties in the future interval. The RTD flexible ramping capacity is prorated to each BAA. Flexible ramping surplus MW is defined as the awarded flexible ramping capacity in RTD minus its share, and the flexible ramping surplus cost is defined as the flexible ramping surplus MW multiplied by the flexible ramping EIM-wide marginal price. A positive flexible ramping surplus MW is the capacity that a BAA provided to help other BAAs, and a negative flexible ramping surplus MW is the capacity that a BAA received from other BAAs. The EIM dispatch cost for a BAA with positive flexible ramping surplus MW is increased because some capacities are used to help other BAAs. The flexible ramping surplus cost is subtracted from the BAA's EIM dispatch cost to reflect the true dispatch cost of a BAA. Please see the Benefit Report Methodology in the Appendix for more details.

Conclusion

Participation in the western EIM continues to show that utilities can realize cost benefits and reduced carbon emissions. With \$213.24 million in gross benefits to date, the realized savings are in line with analysis conducted by each EIM entity before they joined EIM. . The EIM resource sharing also continues to have a positive effect on reducing greenhouse gas emissions by using renewable generation that otherwise would have been turned off. Use of this energy to meet demand across the EIM footprint is likely replacing less clean energy sources. The GHG quantified benefits due to avoided curtailments⁴ of 204,941 metric tons from 2015 to date is roughly equivalent to avoiding the emissions from 43,088 passenger cars driven for one year.

⁴ See footnote 1 on page 3.
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ATTACHMENT 1

MBR Tariff Revisions

[Clean and Marked Forms Submitted Separately via eTariff]

Nevada Power Company

FERC Electric Tariff Volume No. 11

Market-Based Rate Tariff

Nevada Power Company
FERC Electric Tariff Volume No. 11
Market-Based Rate Tariff

1. Availability: Nevada Power Company (“NPC” or “Seller”) makes electric energy and capacity, available under this Tariff to any eligible purchaser for resale except as limited in Paragraph 9, makes sales of certain ancillary services in the California Independent System Operator market, and makes sales into the California ISO Energy Imbalance Market.
2. Applicability: This Rate Schedule is applicable to all sales of energy and capacity by NPC to eligible purchasers that are not otherwise subject to a particular rate schedule of NPC.
3. Rates: All sales pursuant to this Rate Schedule shall be made at rates negotiated between the purchaser and NPC.
4. Other Terms and Conditions: All other terms and conditions for purchases of electric energy and capacity shall be established by agreement between the purchaser and NPC.
5. Seller Category: Seller is a Category 2 seller in the Northwest and Southwest regions, and a Category 1 seller in the Central, Northeast, Southeast and Southwest Power Pool regions, as defined in 18 C.F.R. 35.36(a).
6. Ancillary Services:
California: Seller offers regulation service, spinning reserve service, and non-spinning reserve service to the California Independent System Operator Corporation (“CAISO”) and to others that are self-supplying ancillary services to the CAISO.
7. Third Party Provider: Third-party ancillary services: Seller offers Regulation Service, Reactive Supply and Voltage Control Service, Energy and Generator Imbalance Service, Operating Reserve-Spinning, Operating Reserve-Supplemental and Primary Frequency Response Service. Sales will not include the following: (1) sales to an RTO or an ISO, i.e., where that entity has no ability to self-supply ancillary services but instead depends on third parties; and (2) sales to a traditional, franchised public utility affiliated with the third-party supplier, or sales where the underlying transmission service is on the system of the public utility affiliated with the third-party supplier. Sales of Operating Reserve-Spinning and Operating Reserve-Supplemental will not include sales to a public utility that is purchasing ancillary services to satisfy its own open access transmission tariff requirements to offer ancillary services to its own customers, except where the Commission has granted authorization. Sales of Regulation Service and Reactive Supply and Voltage Control Service will not include sales to a public utility that is purchasing ancillary services to satisfy its own open access transmission tariff requirements to offer ancillary services to its own customers, except at rates not to exceed the buying public utility transmission provider’s OATT rate for the same service or where the Commission has granted authorization.

8. Compliance with Commission Regulations: Seller shall comply with the provisions of 18 C.F.R. Part 35, Subpart H, as applicable, and with any conditions the Commission imposes in its orders concerning seller's market-based rate authority, including orders in which the Commission authorizes seller to engage in affiliate sales under this tariff or otherwise restricts or limits the seller's market-based rate authority. Failure to comply with the applicable provisions of 18 C.F.R. Part 35, Subpart H, and with any orders of the Commission concerning seller's market-based rate authority, will constitute a violation of this tariff. Sales into the CAISO Energy Imbalance Market will not be deemed to be sales to an affiliate for purposes of this section.
9. Limitations and Exemptions Regarding Market-Based Rate Authority: NPC's tariff excludes market-based sales to customers located within the Idaho Power Company, NEVP, NorthWestern Corporation, PacifiCorp-East, and PacifiCorp-West Balancing Authority Areas. *See Sierra Pacific Power Co., et al.*, 147 FERC ¶ 61, 137 (2014); *see also Sierra Pacific Power Co.*, 95 FERC ¶ 61,193, at 61,675, *reh'g dismissed*, 96 FERC ¶ 61,050 (2001); *see also Sierra Pacific Power Co.*, 111 FERC ¶ 61,259, at P 21 (2005); *Nevada Power Co., et al.*, 155 FERC ¶ 61,249 at P 3 (2016). This limitation does not apply to sales made in the CAISO Energy Imbalance Market. NPC has been granted waiver of Subparts B and C of Part 35 of the Commission's regulations requiring the filing of cost-of-service information, except for sections 35.12(a), 35.13(b), 35.15 and 35.16. *Sierra Pacific Power Co.*, 95 FERC ¶ 61,193, at 61,679 (2001).
10. Mitigated Sales: Sales of energy and capacity are permissible under this tariff in all balancing authority areas where the Seller has been granted market-based rate authority. Sales of energy and capacity under this tariff are also permissible at the metered boundary between the Seller's mitigated balancing authority area and a balancing authority area where the Seller has been granted market-based rate authority provided: (i) legal title of the power sold transfers at the metered boundary of the balancing authority area where the seller has market-based rate authority; and (ii) if the Seller sells at the metered boundary of a mitigated balancing authority area at market-based rates, then neither it nor its affiliates can sell into that mitigated balancing authority area from the outside. Seller must retain, for a period of five years from the date of the sale, all data and information related to the sale that demonstrates compliance with items (i) and (ii) above. Restrictions in this Section do not apply to sales made in the CAISO Energy Imbalance Market.
11. Sales into CAISO Energy Imbalance Market (EIM): Seller may make sales at market-based rates in the CAISO Energy Imbalance Market under this tariff.

Nevada Power Company

FERC Electric Tariff Volume No. 11

Market-Based Rate Tariff

Nevada Power Company
FERC Electric Tariff Volume No. 11
Market-Based Rate Tariff

1. Availability: Nevada Power Company (“NPC” or “Seller”) makes electric energy and capacity, available under this Tariff to any eligible purchaser for resale except as limited in Paragraph 9, makes sales of certain ancillary services in the California Independent System Operator market, and makes sales into the California ISO Energy Imbalance Market.
2. Applicability: This Rate Schedule is applicable to all sales of energy and capacity by NPC to eligible purchasers that are not otherwise subject to a particular rate schedule of NPC.
3. Rates: All sales pursuant to this Rate Schedule shall be made at rates negotiated between the purchaser and NPC.
4. Other Terms and Conditions: All other terms and conditions for purchases of electric energy and capacity shall be established by agreement between the purchaser and NPC.
5. Seller Category: Seller is a Category 2 seller in the Northwest and Southwest regions, and a Category 1 seller in the Central, Northeast, Southeast and Southwest Power Pool regions, as defined in 18 C.F.R. 35.36(a).
6. Ancillary Services:
California: Seller offers regulation service, spinning reserve service, and non-spinning reserve service to the California Independent System Operator Corporation (“CAISO”) and to others that are self-supplying ancillary services to the CAISO.
7. Third Party Provider: Third-party ancillary services: Seller offers Regulation Service, Reactive Supply and Voltage Control Service, Energy and Generator Imbalance Service, Operating Reserve-Spinning, Operating Reserve-Supplemental and Primary Frequency Response Service. Sales will not include the following: (1) sales to an RTO or an ISO, i.e., where that entity has no ability to self-supply ancillary services but instead depends on third parties; and (2) sales to a traditional, franchised public utility affiliated with the third-party supplier, or sales where the underlying transmission service is on the system of the public utility affiliated with the third-party supplier. Sales of Operating Reserve-Spinning and Operating Reserve-Supplemental will not include sales to a public utility that is purchasing ancillary services to satisfy its own open access transmission tariff requirements to offer ancillary services to its own customers, except where the Commission has granted authorization. Sales of Regulation Service and Reactive Supply and Voltage Control Service will not include sales to a public utility that is purchasing ancillary services to satisfy its own open access transmission tariff requirements to offer ancillary services to its own customers, except at rates not to exceed the buying public utility transmission provider’s OATT rate for the same service or where the Commission has granted authorization.

8. Compliance with Commission Regulations: Seller shall comply with the provisions of 18 C.F.R. Part 35, Subpart H, as applicable, and with any conditions the Commission imposes in its orders concerning seller's market-based rate authority, including orders in which the Commission authorizes seller to engage in affiliate sales under this tariff or otherwise restricts or limits the seller's market-based rate authority. Failure to comply with the applicable provisions of 18 C.F.R. Part 35, Subpart H, and with any orders of the Commission concerning seller's market-based rate authority, will constitute a violation of this tariff. Sales into the CAISO Energy Imbalance Market will not be deemed to be sales to an affiliate for purposes of this section.
9. Limitations and Exemptions Regarding Market-Based Rate Authority: NPC's tariff excludes market-based sales to customers located within the Idaho Power Company, NEVP, NorthWestern Corporation, PacifiCorp-East, and PacifiCorp-West Balancing Authority Areas. *See Sierra Pacific Power Co., et al.*, 147 FERC ¶ 61, 137 (2014); *see also Sierra Pacific Power Co.*, 95 FERC ¶ 61,193, at 61,675, *reh'g dismissed*, 96 FERC ¶ 61,050 (2001); *see also Sierra Pacific Power Co.*, 111 FERC ¶ 61,259, at P 21 (2005); *Nevada Power Co., et al.*, 155 FERC ¶ 61,249 at P 3 (2016). This limitation does not apply to sales made in the CAISO Energy Imbalance Market. NPC has been granted waiver of Subparts B and C of Part 35 of the Commission's regulations requiring the filing of cost-of-service information, except for sections 35.12(a), 35.13(b), 35.15 and 35.16. *Sierra Pacific Power Co.*, 95 FERC ¶ 61,193, at 61,679 (2001).
10. Mitigated Sales: Sales of energy and capacity are permissible under this tariff in all balancing authority areas where the Seller has been granted market-based rate authority. Sales of energy and capacity under this tariff are also permissible at the metered boundary between the Seller's mitigated balancing authority area and a balancing authority area where the Seller has been granted market-based rate authority provided: (i) legal title of the power sold transfers at the metered boundary of the balancing authority area where the seller has market-based rate authority; and (ii) if the Seller sells at the metered boundary of a mitigated balancing authority area at market-based rates, then neither it nor its affiliates can sell into that mitigated balancing authority area from the outside. Seller must retain, for a period of five years from the date of the sale, all data and information related to the sale that demonstrates compliance with items (i) and (ii) above. Restrictions in this Section do not apply to sales made in the CAISO Energy Imbalance Market.
11. Sales into CAISO Energy Imbalance Market (EIM): Seller may make sales at market-based rates in the CAISO Energy Imbalance Market under this tariff. ~~All EIM bids by Seller shall not exceed the appropriate Default Energy Bid calculated in accordance with the Variable Cost Option or Negotiated Rate Option provided in the CAISO Tariff, and Seller shall be paid in accordance with the CAISO Tariff. In the event that data on the CAISO calculation of the Default Energy Bid is not available in a timely manner to the Seller for the applicable period, the Default Energy Bid for the same period from the preceding day shall govern for purposes of this provision. When the Default Energy Bid for the same period from the preceding day is used under this provision, Seller shall timely post notice of such an occurrence on its Open Access Same-Time~~

Information System.

Sierra Pacific Power Company

FERC Electric Tariff Volume No. 7

Market-Based Rate Tariff

Sierra Pacific Power Company
FERC Electric Tariff Volume No. 7
Market-Based Rate Tariff

1. Availability: Sierra Pacific Power Company (“SPPC” or “Seller”) makes electric energy and capacity, available under this Tariff to any eligible purchaser for resale except as limited in Paragraph 9, makes sales of certain ancillary services in the California Independent System Operator market, and makes sales into the California ISO Energy Imbalance Market.
2. Applicability: This Rate Schedule is applicable to all sales of energy and capacity by SPPC to eligible purchasers that are not otherwise subject to a particular rate schedule of SPPC.
3. Rates: All sales pursuant to this Rate Schedule shall be made at rates negotiated between the purchaser and SPPC.
4. Other Terms and Conditions: All other terms and conditions for purchases of electric energy and capacity shall be established by agreement between the purchaser and SPPC.
5. Seller Category: Seller is a Category 2 seller in the Northwest region, and a Category 1 seller in the Central, Northeast, Southeast, Southwest, and Southwest Power Pool regions, as defined in 18 C.F.R. 35.36(a).
6. Ancillary Services:
California: Seller offers regulation service, spinning reserve service, and non-spinning reserve service to the California Independent System Operator Corporation (“CAISO”) and to others that are self-supplying ancillary services to the CAISO.
7. Third Party Provider: Third-party ancillary services: Seller offers Regulation Service, Reactive Supply and Voltage Control Service, Energy and Generator Imbalance Service, Operating Reserve-Spinning, Operating Reserve-Supplemental and Primary Frequency Response Service. Sales will not include the following: (1) sales to an RTO or an ISO, i.e., where that entity has no ability to self-supply ancillary services but instead depends on third parties; and (2) sales to a traditional, franchised public utility affiliated with the third-party supplier, or sales where the underlying transmission service is on the system of the public utility affiliated with the third-party supplier. Sales of Operating Reserve-Spinning and Operating Reserve-Supplemental will not include sales to a public utility that is purchasing ancillary services to satisfy its own open access transmission tariff requirements to offer ancillary services to its own customers, except where the Commission has granted authorization. Sales of Regulation Service and Reactive Supply and Voltage Control Service will not include sales to a public utility that is purchasing ancillary services to satisfy its own open access transmission tariff requirements to offer ancillary services to its own customers, except at rates not to exceed the buying public utility transmission provider’s OATT rate for the same service or where the Commission has granted authorization.

8. Compliance with Commission Regulations: Seller shall comply with the provisions of 18 C.F.R. Part 35, Subpart H, as applicable, and with any conditions the Commission imposes in its orders concerning seller's market-based rate authority, including orders in which the Commission authorizes seller to engage in affiliate sales under this tariff or otherwise restricts or limits the seller's market-based rate authority. Failure to comply with the applicable provisions of 18 C.F.R. Part 35, Subpart H, and with any orders of the Commission concerning seller's market-based rate authority, will constitute a violation of this tariff. Sales into the CAISO Energy Imbalance Market will not be deemed to be sales to an affiliate for purposes of this section.
9. Limitations and Exemptions Regarding Market-Based Rate Authority: SPPC's tariff excludes market-based sales to customers located within the Idaho Power Company, NEVP, NorthWestern Corporation, PacifiCorp-East, and PacifiCorp-West Balancing Authority Areas. *See Sierra Pacific Power Co., et al.*, 147 FERC ¶ 61, 137 (2014); *see also Sierra Pacific Power Co.*, 95 FERC ¶ 61,193, at 61,675, *reh'g dismissed*, 96 FERC ¶ 61,050 (2001); *see also Sierra Pacific Power Co.*, 111 FERC ¶ 61,259, at P 21 (2005); *Nevada Power Co., et al.*, 155 FERC ¶ 61,249 at P 3 (2016). This limitation does not apply to sales made in the CAISO Energy Imbalance Market. SPPC has been granted waiver of Subparts B and C of Part 35 of the Commission's regulations requiring the filing of cost-of-service information, except for sections 35.12(a), 35.13(b), 35.15 and 35.16. *Sierra Pacific Power Co.*, 95 FERC ¶ 61,193, at 61,679 (2001).
10. Mitigated Sales: Sales of energy and capacity are permissible under this tariff in all balancing authority areas where the Seller has been granted market-based rate authority. Sales of energy and capacity under this tariff are also permissible at the metered boundary between the Seller's mitigated balancing authority area and a balancing authority area where the Seller has been granted market-based rate authority provided: (i) legal title of the power sold transfers at the metered boundary of the balancing authority area where the seller has market-based rate authority; and (ii) if the Seller sells at the metered boundary of a mitigated balancing authority area at market-based rates, then neither it nor its affiliates can sell into that mitigated balancing authority area from the outside. Seller must retain, for a period of five years from the date of the sale, all data and information related to the sale that demonstrates compliance with items (i) and (ii) above. Restrictions in this Section do not apply to sales made in the CAISO Energy Imbalance Market.
11. Sales into CAISO Energy Imbalance Market (EIM): Seller may make sales at market-based rates in the CAISO Energy Imbalance Market under this tariff.

Sierra Pacific Power Company

FERC Electric Tariff Volume No. 7

Market-Based Rate Tariff

Sierra Pacific Power Company
FERC Electric Tariff Volume No. 7
Market-Based Rate Tariff

1. Availability: Sierra Pacific Power Company (“SPPC” or “Seller”) makes electric energy and capacity, available under this Tariff to any eligible purchaser for resale except as limited in Paragraph 9, makes sales of certain ancillary services in the California Independent System Operator market, and makes sales into the California ISO Energy Imbalance Market.
2. Applicability: This Rate Schedule is applicable to all sales of energy and capacity by SPPC to eligible purchasers that are not otherwise subject to a particular rate schedule of SPPC.
3. Rates: All sales pursuant to this Rate Schedule shall be made at rates negotiated between the purchaser and SPPC.
4. Other Terms and Conditions: All other terms and conditions for purchases of electric energy and capacity shall be established by agreement between the purchaser and SPPC.
5. Seller Category: Seller is a Category 2 seller in the Northwest region, and a Category 1 seller in the Central, Northeast, Southeast, Southwest, and Southwest Power Pool regions, as defined in 18 C.F.R. 35.36(a).
6. Ancillary Services:
California: Seller offers regulation service, spinning reserve service, and non-spinning reserve service to the California Independent System Operator Corporation (“CAISO”) and to others that are self-supplying ancillary services to the CAISO.
7. Third Party Provider: Third-party ancillary services: Seller offers Regulation Service, Reactive Supply and Voltage Control Service, Energy and Generator Imbalance Service, Operating Reserve-Spinning, Operating Reserve-Supplemental and Primary Frequency Response Service. Sales will not include the following: (1) sales to an RTO or an ISO, i.e., where that entity has no ability to self-supply ancillary services but instead depends on third parties; and (2) sales to a traditional, franchised public utility affiliated with the third-party supplier, or sales where the underlying transmission service is on the system of the public utility affiliated with the third-party supplier. Sales of Operating Reserve-Spinning and Operating Reserve-Supplemental will not include sales to a public utility that is purchasing ancillary services to satisfy its own open access transmission tariff requirements to offer ancillary services to its own customers, except where the Commission has granted authorization. Sales of Regulation Service and Reactive Supply and Voltage Control Service will not include sales to a public utility that is purchasing ancillary services to satisfy its own open access transmission tariff requirements to offer ancillary services to its own customers, except at rates not to exceed the buying public utility transmission provider’s OATT rate for the same service or where the Commission has granted authorization.

8. Compliance with Commission Regulations: Seller shall comply with the provisions of 18 C.F.R. Part 35, Subpart H, as applicable, and with any conditions the Commission imposes in its orders concerning seller's market-based rate authority, including orders in which the Commission authorizes seller to engage in affiliate sales under this tariff or otherwise restricts or limits the seller's market-based rate authority. Failure to comply with the applicable provisions of 18 C.F.R. Part 35, Subpart H, and with any orders of the Commission concerning seller's market-based rate authority, will constitute a violation of this tariff. Sales into the CAISO Energy Imbalance Market will not be deemed to be sales to an affiliate for purposes of this section.
9. Limitations and Exemptions Regarding Market-Based Rate Authority: SPPC's tariff excludes market-based sales to customers located within the Idaho Power Company, NEVP, NorthWestern Corporation, PacifiCorp-East, and PacifiCorp-West Balancing Authority Areas. *See Sierra Pacific Power Co., et al.*, 147 FERC ¶ 61, 137 (2014); *see also Sierra Pacific Power Co.*, 95 FERC ¶ 61,193, at 61,675, *reh'g dismissed*, 96 FERC ¶ 61,050 (2001); *see also Sierra Pacific Power Co.*, 111 FERC ¶ 61,259, at P 21 (2005); *Nevada Power Co., et al.*, 155 FERC ¶ 61,249 at P 3 (2016). This limitation does not apply to sales made in the CAISO Energy Imbalance Market. SPPC has been granted waiver of Subparts B and C of Part 35 of the Commission's regulations requiring the filing of cost-of-service information, except for sections 35.12(a), 35.13(b), 35.15 and 35.16. *Sierra Pacific Power Co.*, 95 FERC ¶ 61,193, at 61,679 (2001).
10. Mitigated Sales: Sales of energy and capacity are permissible under this tariff in all balancing authority areas where the Seller has been granted market-based rate authority. Sales of energy and capacity under this tariff are also permissible at the metered boundary between the Seller's mitigated balancing authority area and a balancing authority area where the Seller has been granted market-based rate authority provided: (i) legal title of the power sold transfers at the metered boundary of the balancing authority area where the seller has market-based rate authority; and (ii) if the Seller sells at the metered boundary of a mitigated balancing authority area at market-based rates, then neither it nor its affiliates can sell into that mitigated balancing authority area from the outside. Seller must retain, for a period of five years from the date of the sale, all data and information related to the sale that demonstrates compliance with items (i) and (ii) above. Restrictions in this Section do not apply to sales made in the CAISO Energy Imbalance Market.
11. Sales into CAISO Energy Imbalance Market (EIM): Seller may make sales at market-based rates in the CAISO Energy Imbalance Market under this tariff. ~~All EIM bids by Seller shall not exceed the appropriate Default Energy Bid calculated in accordance with the Variable Cost Option or Negotiated Rate Option provided in the CAISO Tariff, and Seller shall be paid in accordance with the CAISO Tariff. In the event that data on the CAISO calculation of the Default Energy Bid is not available in a timely manner to the Seller for the applicable period, the Default Energy Bid for the same period from the preceding day shall govern for purposes of this provision. When the Default Energy Bid for the same period from the preceding day is used under this provision, Seller shall timely post notice of such an occurrence on its Open Access Same-Time~~

Information System.

8. LIMITATIONS AND EXEMPTIONS REGARDING MARKET-BASED RATE AUTHORITY

- (a) Mitigated Markets: Seller does not have authority under this tariff to make sales within the Idaho Power Company, NEVP, NorthWestern Corporation, PacifiCorp-East, or PacifiCorp-West Balancing Authority Areas. *See Sierra Pacific Power Co.*, 95 FERC ¶ 61,193, at 61,675, *reh'g dismissed*, 96 FERC ¶ 61,050 (2001); *see also Sierra Pacific Power Co.*, 111 FERC ¶ 61,259, at P 21 (2005); *Nevada Power Co., et al.*, 155 FERC ¶ 61,249 at P 3 (2016). This limitation does not apply to sales made in the California Independent System Operator Corporation (“CAISO”) Energy Imbalance Market.
- (b) Mitigated Sales: Sales of energy and capacity are permissible under this tariff in all balancing authority areas where the Seller has been granted market-based rate authority. Sales of energy and capacity under this tariff are also permissible at the metered boundary between the Seller's mitigated balancing authority area and a balancing authority area where the Seller has been granted market-based rate authority provided: (i) legal title of the power sold transfers at the metered boundary of the balancing authority area where the Seller has market-based rate authority; and (ii) if the Seller sells at the metered boundary of a mitigated balancing authority area at market-based rates, then neither it nor its affiliates can sell into that mitigated balancing authority area from the outside. Seller must retain, for a period of five years from the date of the sale, all data and information related to the sale that demonstrates compliance with items (i) and (ii) above. Restrictions in this Section 8(b) do not apply to sales made in the CAISO Energy Imbalance Market.
- (c) Sales into CAISO Energy Imbalance Market (EIM): Seller may make sales at market-based rates in the CAISO Energy Imbalance Market under this tariff. Seller's EIM bids may be subject to mitigation by the CAISO in accordance with the market power mitigation terms of the CAISO Tariff. To the extent that Seller lacks the requisite market-based rate authority at any time for sales into the EIM, any EIM bids by Sellers shall be limited to its Default Energy Bid as calculated in accordance with the CAISO Tariff, and Seller shall be paid in accordance with the CAISO Tariff.

8. LIMITATIONS AND EXEMPTIONS REGARDING MARKET-BASED RATE AUTHORITY

- (a) Mitigated Markets: Seller does not have authority under this tariff to make sales within the Idaho Power Company, NEVP, NorthWestern Corporation, PacifiCorp-East, or PacifiCorp-West Balancing Authority Areas. *See Sierra Pacific Power Co.*, 95 FERC ¶ 61,193, at 61,675, *reh'g dismissed*, 96 FERC ¶ 61,050 (2001); *see also Sierra Pacific Power Co.*, 111 FERC ¶ 61,259, at P 21 (2005); *Nevada Power Co., et al.*, 155 FERC ¶ 61,249 at P 3 (2016). This limitation does not apply to sales made in the California Independent System Operator Corporation (“CAISO”) Energy Imbalance Market.
- (b) Mitigated Sales: Sales of energy and capacity are permissible under this tariff in all balancing authority areas where the Seller has been granted market-based rate authority. Sales of energy and capacity under this tariff are also permissible at the metered boundary between the Seller's mitigated balancing authority area and a balancing authority area where the Seller has been granted market-based rate authority provided: (i) legal title of the power sold transfers at the metered boundary of the balancing authority area where the Seller has market-based rate authority; and (ii) if the Seller sells at the metered boundary of a mitigated balancing authority area at market-based rates, then neither it nor its affiliates can sell into that mitigated balancing authority area from the outside. Seller must retain, for a period of five years from the date of the sale, all data and information related to the sale that demonstrates compliance with items (i) and (ii) above. Restrictions in this Section 8(b) do not apply to sales made in the CAISO Energy Imbalance Market.
- (c) Sales into CAISO Energy Imbalance Market (EIM): Seller may make sales at market-based rates in the CAISO Energy Imbalance Market under this tariff. ~~All EIM bids by Seller shall not exceed the appropriate Default Energy Bid calculated in accordance with the Variable Cost Option or Negotiated Rate Option provided in the CAISO Tariff, and Seller shall be paid in accordance with the CAISO Tariff. In the event that data on the CAISO calculation of the Default Energy Bid is not available in a timely manner to Seller for the applicable period, the Default Energy Bid for the same period from the preceding day shall govern for purposes of this provision. When the Default Energy Bid for the same period from the preceding day is used under this provision, Seller shall timely post notice of such an occurrence on its Open Access Same Time Information System.~~ Seller's EIM bids may be subject to mitigation by the CAISO in accordance with the market power mitigation terms of the CAISO Tariff. To the extent that Seller lacks the requisite market-based rate authority at any time for sales into the EIM, any EIM bids by Sellers shall be limited to its Default Energy Bid as calculated in accordance with the CAISO Tariff, and Seller shall be paid in accordance with the CAISO Tariff.

9. COMPLIANCE WITH COMMISSION REGULATIONS

Seller shall comply with the provisions of 18 CFR Part 35, Subpart H, as applicable, and with any conditions the Commission imposes in its orders concerning seller's market-based rate authority, including orders in which the Commission authorizes seller to engage in affiliate sales under this tariff or otherwise restricts or limits the seller's market-based rate authority. Failure to comply with the applicable provisions of 18 CFR Part 35, Subpart H, and with any orders of the Commission concerning seller's market-based rate authority, will constitute a violation of this tariff. Sales into the CAISO Energy Imbalance Market will not be deemed to be sales to an affiliate for purposes of this section.

9. COMPLIANCE WITH COMMISSION REGULATIONS

Seller shall comply with the provisions of 18 CFR Part 35, Subpart H, as applicable, and with any conditions the Commission imposes in its orders concerning seller's market-based rate authority, including orders in which the Commission authorizes seller to engage in affiliate sales under this tariff or otherwise restricts or limits the seller's market-based rate authority. Failure to comply with the applicable provisions of 18 CFR Part 35, Subpart H, and with any orders of the Commission concerning seller's market-based rate authority, will constitute a violation of this tariff. [Sales into the CAISO Energy Imbalance Market will not be deemed to be sales to an affiliate for purposes of this section.](#)

ATTACHMENT 2

List of Affiliates



Berkshire Hathaway Energy Company
P.O. Box 657
Des Moines, Iowa 50306-0657
(515) 242-4099 Telephone
(515) 281-2460 Fax
E-mail: pjleighton@midamerican.com

PAUL J. LEIGHTON
Vice President, Assistant Corporate Secretary
& Assistant General Counsel

Via e-Filing

October 8, 2015

Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: Docket No. HC16-___-000
Update to FERC-65 "Notification of Holding Company Status"

Dear Ms. Bose:

Pursuant to Section 366.4(a) of the Federal Energy Regulatory Commission's ("Commission") regulations¹, Berkshire Hathaway Energy Company ("BHE"), on behalf of itself; its parent, Berkshire Hathaway Inc.; and its subsidiary holding companies, hereby electronically files this update to its FERC-65 Notification of Holding Company Status.

I. Contents of Filing

The contents of this filing are as follows:

- This transmittal letter;
- FERC-65 Notification of Holding Company Status;
- Exhibit A to FERC-65, list of Berkshire Hathaway Inc. non-BHE subsidiaries; and
- Exhibit B to FERC-65, list of BHE non-public-utility company subsidiaries.

¹ 18 C.F.R. § 366.4(a).

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
October 8, 2015
Page 2

II. Purpose of Filing

In accordance with Section 366.4(a), the attached FERC-65 updates the initial notification filed on June 15, 2006 in Docket No. HC06-1-000, as previously updated, to include a new subsidiary holding companies created since the most recent updated FERC-65 was filed.

III. Communication

BHE respectfully requests that all communications regarding this filing be directed to the following individuals:

Natalie L. Hocken
Senior Vice President and
General Counsel
Berkshire Hathaway Energy Company
Lloyd Center Tower
825 NE Multnomah
Portland, Oregon 97232
Telephone: 503.813.7205
Facsimile: 503.813.7262
Email: nlhocken@berkshirehathawayenergy.com

Paul J. Leighton
Vice President and
Assistant General Counsel
Berkshire Hathaway Energy Company
4299 NW Urbandale Drive
Urbandale, Iowa 50322
Telephone: 515.242.4099
Facsimile: 515.281.2460
Email: pjleighton@midamerican.com

Sincerely,

/s/ Paul J. Leighton

Paul J. Leighton
Vice President and Assistant General Counsel

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Berkshire Hathaway Inc.	)	Docket No. HC16-__-000
Berkshire Hathaway Energy Company)	

FERC-65

NOTIFICATION OF HOLDING COMPANY STATUS

Pursuant to the Public Utility Holding Company Act of 2005 and Section 366.4(a) of the Federal Energy Regulatory Commission's ("Commission") regulations thereunder,¹ Berkshire Hathaway Energy Company ("BHE") on behalf of itself; its parent, Berkshire Hathaway Inc.; and its subsidiary holding companies hereby notifies the Commission that each of the below identified entities is a "holding company" within the meaning of 18 C.F.R. § 366.1², and provides the following information:

1. Name and Address of Holding Company.

(a) Top Holding Company.

Berkshire Hathaway Inc.
1440 Kiewit Plaza
Omaha, Nebraska 68131

(b) Subsidiary Holding Companies Not Exempt Under 18 C.F.R. § 366.3(a).

Berkshire Hathaway Energy Company
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

MidAmerican Funding, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

MHC Inc.
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

¹ 18 C.F.R. § 366.4(a).

² Excluded from this Notice of Holding Company Status are the subsidiary holding companies of solely qualifying facilities, exempt wholesale generators and foreign utility companies in accordance with 18 C.F.R. § 366.3(a).

PPW Holdings LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

NVE Holdings, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

NV Energy, Inc.
6100 Neil Road
Reno, Nevada 89511

NNGC Acquisition, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

KR Holding, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

KR Acquisition 1, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

KR Acquisition 2, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

BHE U.S. Transmission, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

BHE America Transco, LLC³
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

BHE Midcontinent Transmission Holdings, LLC⁴
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

³ BHE America Transco, LLC owns a 50% interest in Electric Transmission America, LLC which owns a 50% interest in Prairie Wind Transmission, LLC.

⁴ BHE Midcontinent Transmission Holdings, LLC owns a 50% interest in Midwest Power Midcontinent Transmission Development, LLC which owns 100% of Midwest Power Transmission Arkansas, LLC.

Midwest Power Midcontinent Transmission Development, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

BHE Southwest Transmission Holdings, LLC⁵
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

MPT Heartland Development, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

Electric Transmission America, LLC
700 Morrison Road
Gahanna, Ohio 43230

BHE Texas Transco, LLC⁶
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

California Utility Holdco, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

MTL Canyon Holdings, LLC⁷
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

TransCanyon, LLC
400 North 5th Street
Phoenix, AZ 85004

IES Holding, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

Phillips 66
3010 Briarpark Drive
Houston, Texas 77042

⁵ BHE Southwest Transmission Holdings, LLC owns a 50% interest in MPT Heartland Development, LLC which owns a 100% interest in Kanstar Transmission, LLC.

⁶ BHE Texas Transco, LLC owns a 50% interest in Electric Transmission Texas, LLC, a public utility providing electric transmission service solely within the Electric Reliability Council of Texas region.

⁷ MTL Canyon Holdings, LLC owns a 50% interest in TransCanyon, LLC which owns a 100% interest in TransCanyon DCR, LLC.

2. Public Utilities and Natural Gas Companies in the Holding Company System.

(a) Public Utilities.

MidAmerican Energy Company
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

PacifiCorp
Lloyd Center Tower
825 NE Multnomah
Portland, Oregon 97232

Nevada Power Company
6226 West Sahara Avenue
Las Vegas, Nevada 89146

Sierra Pacific Power Company
6100 Neil Road
Reno, Nevada 89511

Prairie Wind Transmission, LLC
818 South Kansas Avenue
Topeka, Kansas 66601

MidAmerican Central California Transco, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

TransCanyon DCR, LLC
400 North 5th Street
Phoenix, AZ 85004

MidAmerican Energy Services, LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

Midwest Power Transmission Arkansas, LLC
818 South Kansas Avenue
Topeka, Kansas 66612

Kanstar Transmission, LLC
818 South Kansas Avenue
Topeka, Kansas 66612

Phillips 66 Company
3010 Briarpark Drive
Houston, Texas 77042

(b) Natural Gas Companies.

Northern Natural Gas Company
1111 South 103rd Street
Omaha, Nebraska 68124

Kern River Gas Transmission Company
2755 East Cottonwood Parkway, Suite 300
Salt Lake City, Utah 84121

DCP Midstream, LLC
370 17th Street, Suite 2500
Denver, CO 80202 Denver, CO 80202

Rockies Express Pipeline LLC
4200 W. 115th Street, Suite 350
Leawood, Kansas 66211

3. Service Companies or Special Purpose Subsidiaries Providing Non-Power Goods and Services. (Each of the below companies is a special purpose subsidiary.)

Bridger Coal Company
1407 West North Temple, Room 320
Salt Lake City, Utah 84116-3187

Interwest Mining Company
201 South Main, Suite 2100
Salt Lake City, Utah 84111

MidAmerican Energy Machining Services LLC
666 Grand Avenue, Suite 500
Des Moines, Iowa 50309-2580

MEHC Insurance Services Ltd.
148 College Street
Burlington, Vermont 05401-8476

Metalogic Inspection Services Inc.
7211-68 Avenue NW
Edmonton, Alberta
Canada T6B 3T6

NVE Insurance Company, Inc.
6226 West Sahara Avenue
Las Vegas, Nevada 89146

Trapper Mining Inc.
1407 West North Temple, Room 320
Salt Lake City, Utah 84116-3187

CalEnergy, LLC
1111 South 103rd Street
Omaha, Nebraska 68124

CalEnergy Generation Operating Company
1111 South 103rd Street
Omaha, Nebraska 68124

Metalogic Inspection Services Inc.
7211 68 Avenue
Edmonton, Alberta
Canada T6B 3T6

4. Affiliates and Subsidiaries and Corporate Relationship to Each Other.

See list of Berkshire Hathaway Inc. non-BHE subsidiaries attached as Exhibit A.

See list of BHE non-public utility company subsidiaries attached as Exhibit B.

5. Communications.

All communications regarding this filing should be addressed to the following:

Natalie L. Hocken
Senior Vice President and
General Counsel
Berkshire Hathaway Energy Company
Lloyd Center Tower
825 NE Multnomah
Portland, Oregon 97232
Telephone: 503.813.7205
Facsimile: 503.813.7262
Email: nlhocken@berkshirehathawayenergy.com

Paul J. Leighton
Vice President and
Assistant General Counsel
Berkshire Hathaway Energy Company
4299 NW Urbandale Drive
Urbandale, Iowa 50322
Telephone: 515.242.4099
Facsimile: 515.281.2460
Email: pjleighton@midamerican.com

Respectfully submitted,

/s/ Paul J. Leighton

Vice President and Assistant General Counsel
Berkshire Hathaway Energy Company

Dated: October 8, 2015

EXHIBIT A

**BERKSHIRE HATHAWAY INC.
NON-BERKSHIRE HATHAWAY ENERGY COMPANY SUBSIDIARIES**

See attached

BERKSHIRE HATHAWAY INC. (10% and greater)

Company	%	Related Company	Street	City	State/Country	Zip	Active
1204 Commercial, LLC	100%	BH Auto	P.O. Box 795	Shawnee Mission	KS	66201	X
121 Acquisition Company LLC	80.1%	Nebraska Furniture Mart	14801 Quorum Drive Ste 500	Dallas	TX	75254	X
121 Development, Inc.	100%	BH Auto	P. O. Box 16460	Phoenix	AZ	85011	X
1221 N. Central, LP	100%	BH Auto	P.O. Box 795	Shawnee Mission	KS	66201	X
1321 N. Central, LP	100%	BH Auto	P.O. Box 795	Shawnee Mission	KS	66201	X
15 West LLC	99.99%	Affordable Housing		Vancouver	WA		X
1st in Media LLC	25%	Business Wire	44 Montgomery Street, 39th Floor	San Francisco	CA	94104	X
21 SPC, Inc.	100%	Clayton Homes	620 Market St., Ste. 100	Knoxville	TN	37902	X
2150 Cobb Development, Inc.	100%	BH Auto	P. O. Box 16460	Phoenix	AZ	85011	X
21st Communities, Inc.	100%	Clayton Homes	620 Market St., Ste. 100	Knoxville	TN	37902	X
21st Mortgage Corporation	100%	Clayton Homes	620 Market St., Ste. 100	Knoxville	TN	37902	X
2610 Forest Lane Limited Partnership	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X
2701 Camelback Development, Inc.	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X
2701 N. Central, LP	100%	BH Auto	P.O. Box 795	Shawnee Mission	KS	66201	X
3521 E. Sunshine, LLC	100%	BH Auto		Clayton	MO		X
3655 S. Campbell II, LLC	100%	BH Auto		Clayton	MO		X
3Wire Group, Inc.	100%	Marmon	101 Broadway St. W	Osseo	MN	55369	X
56th Street AXP Campus LLC	14.65%	American Express	2394 E. Camelback Road	Phoenix	AZ	85016	X
66 Pipe Line Company	11.4%	Phillips 66	P.O. Box 9000	Bartlesville	OK	74005	X
6991 Development, Inc.	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X
777 Main Street LLC	99%	Affordable Housing	95 Reef Road	Fairfield	CT	06824	X
800 N. Central, LP	100%	BH Auto	P.O. Box 795	Shawnee Mission	KS	66201	X
802912 Ontario Ltd.	26.9%	Kraft Heinz		Toronto	Ontario, Canada		

BERKSHIRE HATHAWAY INC. (10% and greater)

8400 Hickory, LLC	80.1%	Nebraska Furniture Mart	14801 Quorum Drive Ste 500	Dallas	TX	75254	X
901 E. Division, LLC	100%	BH Auto	P.O. Box 795	Shawnee Mission	KS	66201	X
903564 Alberta Ltd. (Overwalls Paint)		Benjamin Moore	1675 32nd Avenue	Calgary	Alberta Canada	T2E 7Z5	X
9901 Coors Blvd, LLC	100%	BH Auto	123 East Marcy Ste 201	Sante Fe	NM	87501	X
A.A. Kidan Ltd.	100%	Iscar	11 Gan Raveh Avenue	Yavne	Israel	81222	X
A.F. Husain LLC		Iscar	P. O. Box 4007	Dubai	United Arab Emirates		X
Abbotsford Paint & Decorating Centre Inc.	66.7%	Benjamin Moore	Unit 1 - 34252 Marshall Road	Abbotsford	BC	V2S 1L9	X
ABC Nissan LLC	80%	BH Auto	1300 E. Camelback Road	Phoenix	AZ	85014	X
Aberdeen Dialysis, LLC	17.95%	DaVita Healthcare	780 West Bel Air Avenue	Aberdeen	MD	21001	X
Able Dialysis, LLC	17.95%	DaVita Healthcare	831 Providence Road	Secane	PA	19018	X
ABQ Health Partners Endoscopy Center, LLC	17.95%	DaVita Healthcare	5400 Gibson Boulevard SE	Albuquerque	NM	87108	X
ABQ Health Partners, LLC	17.95%	DaVita Healthcare	5400 Gibson Boulevard SE	Albuquerque	NM	87108	X
Acamex Holdings, Inc.	14.65%	American Express			Cayman Islands		X
Accertify, Inc.	14.65%	American Express	1075 Hawthorn Drive	Itasca	IL	60143	X
Accurate Installations, Inc.	100%	MiTek	5487 S. Westridge Drive	New Berlin	WI	53151	X
Acme Brick Block and Tile, Inc.		Acme Brick	2821 W. 7th Street	Fort Worth	TX	76107	X
Acme Brick Company	100%	Acme Brick	2821 W. 7th Street	Fort Worth	TX	76107	X
Acme Brick DFW, Inc.		Acme Brick	2821 W. 7th Street	Fort Worth	TX	76107	X
Acme Brick Sales Company	100%	Acme Brick	2821 W. 7th Street	Fort Worth	TX	76107	X
Acme Brick Tile & Stone, Inc.	100%	Acme Brick	3024 Acme Brick Plaza	Fort Worth	TX	76109	X
Acme Building Brands, Inc.	100%	Acme Brick	2821 W. 7th Street	Fort Worth	TX	76107	X
Acme Investment Company	100%	Acme Brick	3024 Acme Brick Plaza	Fort Worth	TX	76109	X
Acme Management Company	100%	Acme Brick	2821 W. 7th Street	Fort Worth	TX	76107	X
Acme Services Company, LP	100%	Acme Brick	2821 W. 7th Street	Fort Worth	TX	76107	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Acme-Ochs Brick and Stone, Inc.	100%	Acme Brick	7175 Cahill Road	Minneapolis	MN	55439	X
Acoustical & Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	3915 Business Park Drive	Louisville	KY	40213	X
Acoustical Material Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	6545 Burlington North Drive	Houston	TX	77092	X
Acoustical Services, Inc. (d/b/a for L&W Supply Corporation)	29.95%	USG	3725 East Washington Road	Saginaw	MI	48601	X
ACS Allcard Service GmbH	14.65%	American Express	Theodor-Heuss-Allee 112	Frankfurt	Germany	60486	X
Active Organics, Inc.	100%	Lubrizol	1097 Yates Street	Lewisville	TX	75057	X
Acton Dialysis, LLC	17.95%	DaVita Healthcare	897 N Van Dyke Road	Bad Axe	MI	48413	X
ACTV Motors, LLC	93%	BH Auto	9190 W. Bell Rd.	Peoria	AZ		X
Acura of Peoria (d/b/a for ACTV Motors, LLC)	93%	BH Auto	9190 W. Bell Rd.	Peoria	AZ	85382	X
Adair Dialysis, LLC	17.95%	DaVita Healthcare	319 N 2nd Street	Stilwell	OK	74960	X
Adalet/Scott Fetzer Company	100%	Scott Fetzer	4801 West 150th Street	Cleveland	OH	44135	X
Admicornelius S.A. de CV	100%	Marmon	No. 35 Manuel Dublan, Tacubaya	Miguel Hidalgo, Distrito Federal	Mexico	11870	X
Administracion de Calificadoras S.A.	12.07%	Moody's	Paseo de Las Palmas 405, Lomas de Chapultepec	Miguel Hidalgo, Ciudad de México, D.F.	Mexico	11000	X
AE Exposure Management Limited	14.65%	American Express	41/43 La Motte Street	Helier, Jersey	Channel Islands	JE2 4SZ	X
AE Hungary Holdings Limited Liability Company	14.65%	American Express	Vaci Ut 33	Budapest	Hungary	1134	X
AEBL Uruguay Limited	14.65%	American Express			Uruguay		X
AEG Processing Center No. 35, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
AEG Processing Center No. 58, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
Aegis Metal Framing (d/b/a for MiTek Industries, Inc.)	100%	MiTek	14515 N Outer 40 Rd # 110	Chesterfield	MO	63017	X
AEOCC Management Company Limited	14.65%	American Express		Jersey	Channel Islands		X
Aetna Insulated Wire LLC	100%	Marmon	1537 Air Rail Avenue	Virginia Beach	VA	23455-3082	X
Affiliated Agency Operations Co.	100%	National Indemnity	16 South River Street	Wilkes-Barre	PA	18702	X
Affordable Housing Partners, Inc.	100%	Affordable Housing	1999 Avenue of the Stars	Los Angeles	CA	90067	X
Agro Logic, LTD	100%	CTB International	720 Industrial Park Road	Anderson	MO	64831	X

BERKSHIRE HATHAWAY INC. (10% and greater)

AHGH Townhomes, LLC	99.99%	Affordable Housing		Milwaukee	WI		X
AHP 1, L.P.	100%	Affordable Housing		Los Angeles	CA		X
AHP Affordable V.I., LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Affordable, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 1, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 10, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 100, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 101, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 102, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 103, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 104, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 105, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 106, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 107, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 108, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 109, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 11, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 110, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 111, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 112, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 113, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 114, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 115, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 116, LLC	100%	Affordable Housing		Los Angeles	CA		X

BERKSHIRE HATHAWAY INC. (10% and greater)

AHP Housing Fund 117, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 118, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 119, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 12, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 120, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 14, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 15, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 16, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 17, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 18, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 19, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 2, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 20, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 21, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 22, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 23, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 24, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 25, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 26, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 27, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 28, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 29, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 3, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 30, LLC	100%	Affordable Housing		Los Angeles	CA		X

BERKSHIRE HATHAWAY INC. (10% and greater)

AHP Housing Fund 31, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 32, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 33, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 34, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 35, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 36, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 37, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 38, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 39, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 4, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 40, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 41, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 42, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 43, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 44, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 45, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 46, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 47, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 48, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 49, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 5, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 50, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 51, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 52, LLC	100%	Affordable Housing		Los Angeles	CA		X

BERKSHIRE HATHAWAY INC. (10% and greater)

AHP Housing Fund 53, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 54, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 55, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 56, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 57, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 58, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 59, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 6, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 60, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 61, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 62, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 63, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 64, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 65, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 66, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 67, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 68, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 69, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 7, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 70, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 71, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 72, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 73, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 74, LLC	100%	Affordable Housing		Los Angeles	CA		X

BERKSHIRE HATHAWAY INC. (10% and greater)

AHP Housing Fund 75, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 76, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 77, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 78, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 79, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 8, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 80, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 81, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 82, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 83, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 84, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 85, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 86, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 87, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 88, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 89, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 9, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 90, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 91, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 92, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 93, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 94, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 95, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 96, LLC	99.99%	Affordable Housing		Los Angeles	CA		X

BERKSHIRE HATHAWAY INC. (10% and greater)

AHP Housing Fund 97, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 98, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP Housing Fund 99, LLC	99.99%	Affordable Housing		Los Angeles	CA		X
AHP State Affordable 1, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP State Affordable, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP State Housing Fund 1, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP State Housing Fund 2, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP State Housing Fund 3, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP State Housing Fund 4, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP State Housing Fund 5, LLC	100%	Affordable Housing		Los Angeles	CA		X
AHP V.I., LLC	100%	Affordable Housing	11811 N Tatum Blvd #1051	Phoenix	AZ	85028	X
Aicham Larson-Juhl GmbH	100%	Larson Juhl	Leibnizstrabe 28, D-89231	Neu-Ulm	Germany		X
AIG Leasing, LLC	100%	BH Auto	8351 San Fernando Way	Dallas	TX	75218	X
AIG Leasing-Texas, LLC	100%	BH Auto	1999 Bryan Street Suite 900	Dallas	TX	75201	X
AIGFVT, LLC	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X
AIGTLP-Texas Limited Partnership	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X
Aiken Paint & Decorating Inc. d/b/a Park Avenue Paints		Benjamin Moore	200 Park Avenue S.W.	Aiken	SC	29801	X
AIM, LLC	13%	Johns Manville	11939 S Central Ave	Alsip	IL	60803	X
Ainwick Corporation	14.65%	American Express	1400 Pacwest Center, 1211 SW Fifth Ave.	Portland	OR	97204	X
Airpark Dodge Chrysler Jeep (d/b/a for LVN Motors, LLC)	78%	BH Auto	7801 E Frank Lloyd Wright Blvd	Scottsdale	AZ	85260	X
Airsurance Limitee		General Re		Montreal	Canada		
AIS Argentina SA (d/b/a for L&W Supply Corporation)	29.95%	USG	Sucursal Nueva Pompeya Avenida Int. Francisco Rabanal 1683	Buenos Aires	Argentina	C1437FPD	X
AIS Peru (d/b/a for L&W Supply Corporation)	29.95%	USG	Av. Republica de Panama 5481	Surquillo	Peru		X
AIS Uruguay S.A. (d/b/a for L&W Supply Corporation)	29.95%	USG	Villardebó 1178	Montevideo	Uruguay	CP11800	X

BERKSHIRE HATHAWAY INC. (10% and greater)

AITG Corporate Secretaries Limited	14.65%	American Express		Guernsey	UK		X
AJF Warehouse Distributors, Inc.	100%	XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	
AL/TEX Homes, Inc.	100%	Clayton Homes	8701 Harmon Road	Fort Worth	TX	76177	X
Alabama Drywall (d/b/a for L&W Supply Corporation)	29.95%	USG	4930 University Square NW P.O. Box 5587	Huntsville	AL	35816	X
Alachua Tung Oil Company		Benjamin Moore	51 Chestnut Ridge Rd	Montvale	NJ	07645	X
Alameda Belt Line	50%	BNSF Railway	2500 Lou Menk Drive	Fort Worth	TX	76131	X
Alamosa Dialysis, LLC	17.95%	DaVita Healthcare	612 Del Sol Drive	Alamosa	CO	81101	X
Alarama Jewelry (d/b/a for Richline Group, Inc.)	100%	Richline Group	2121 44th Drive	Long Island City	NY	11101	X
Albacor Shipping (USA), Inc.	100%	BNSF Railway	180 Franklin Turnpike	Mahwah	NJ	07430	X
Albacor Shipping OOO	70%	BNSF Railway	Street Kulakova, 20, Bldg 1, 8th floor	Moscow	Russia	123592	X
Albacor Shipping, Inc.		BNSF Railway	701 Evans Ave, Suite 909	Toronto	Ontario, Canada	M9C 1A3	X
Albacor Siberia OOO	70%	BNSF Railway	K.Marks pr., 24, of. 96	Omsk	Russia	644042	X
Albatun, S.A.	26.86%	Kraft Heinz	Multicentro Empresarial Del Es Piso 3 Ofic A-5 Av. Fco De Mir	Caracas	Venezuela		
Albecca Inc.	100%	Larson Juhl	3900 Steve Reynolds Blvd.	Norcross	GA	30093	X
Albemarle Sound Dock LLC	100%	MiTek	818 Soundside Drive	Edenton	NC	27932	X
Albuquerque Retail & Convenience, LLC	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Alex Power Technology		TaeguTec	63 Gesr El Suez St., Omar Ibn Elkhatab Division	Cairo	Egypt		X
Alexander City Flying Service, Inc.		Russell Corporation	997 TC Russell Drive	Alexander City	AL	35010	X
Alexander Road Insurance Agency, Inc.	100%	Medical Protective	746 Alexander Road	Princeton	NJ	08540	X
Alexandria Housing LLLP	99.99%	National Indemnity	805 Fillmore St.	Alexandria	MN	56308	X
Alimentos Heinz de Costa Rica S.A.	26.86%	Kraft Heinz	P.O. Box 284-1200 Pavas	San Jose	Costa Rica		X
Alimentos Heinz, C.A.	26.86%	Kraft Heinz	Carretera Nacional	San Joaquin	Venezuela	2016	X
Alimentos Premium do Brasil Ltda. (70% thru Alimentos Heinz, C.A.)	18.8%	Kraft Heinz	Campos Sales 211, Centro	São Paulo	Brazil		
All Interior Supply, Inc. (d/b/a for L&W Supply Corporation)	29.95%	USG	601 Michael Wylie Drive	Charlotte	NC	28217	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Alltex Interior Supply's Bldg. Spec. (d/b/a for L&W Supply Corporation)	29.95%	USG	420 Industrial Blvd.	Bryan	TX	77803	X
Alpha Card Merchant Services S.C.R.L./C.V.B.A.	14.65%	American Express	100 Boulevard du Souverain	Brussels	Belgium	1170	X
Alpha Card S.C.R.L./C.V.B.A.	14.65%	American Express	100 Boulevard du Souverain	Brussels	Belgium	1170	X
Alpha Cargo Motor Express, Inc.	100%	Acme Brick	2821 W. 7th Street	Fort Worth	TX	76107	X
Alpha Romeo and Fiat of Scottsdale (d/b/a for FSVT Motors, LLC)	78%	BH Auto	16301 North 78th Street	Scottsdale	AZ	85260	X
Altaquip LLC	100%	Scott Fetzer	11135 Ashburn Road	Cincinnati	OH	45240	X
Amarillo Gear (Singapore) Pte Ltd.	100%	Marmon	2 Serangoon North Ave #01-01	Singapore	Singapore		X
Amarillo Gear Company LLC	100%	Marmon	2401 Sundown Lane	Amarilla	TX	79105	X
Amarillo Wind Machine LLC	100%	Marmon	20513 Avenue 256	Exeter	CA	93221	X
Amba Holdings Inc.	12.07%	Moody's	C/O International Financial Services Ltd, IFS Court, TwentyEight	Cybercity, Ebene	Mauritius		X
Amba Independent Ltd.	12.07%	Moody's			British Virgin Islands		X
Amba Investment Services Limited	12.07%	Moody's	302 Orchard Road, No. 07-03 Tong Building, Suite 706	Singapore	Singapore	238862	X
Amba Research (India) Private Limited	12.07%	Moody's	12th Floor, Concorde Block, UB City, Vittal Mallya Road	Bangalore	India	560 001	X
Amba Research Costa Rica SA	12.07%	Moody's	Floor, West Tower, Centro Ejecutivo de Negocios EuroCenter Diursa	San José	Costa Rica	935-1007	X
Amba Research Hong Kong Limited	12.07%	Moody's		Hong Kong			X
Amba Research Lanka (Private) Limited	12.07%	Moody's	32nd Floor, West Tower, World Trade Center, Echelon Square	Columbo	Sri Lanka		X
Amba Research Singapore Pte. Ltd.	12.07%	Moody's	302 Orchard Road, No. 07-03 Tong Building, Suite 706	Singapore	Singapore	238862	X
Amba Research UK Limited	12.07%	Moody's	Fourth Floor, Warwick House, 65-66 Queen Street	London	England	EC4R 1EB	X
Amba Research USA Inc.	12.07%	Moody's	355 Lexington Ave., 5th Floor	New York	NY	10017	X
Ambucor Health Solutions, Inc. (Scottcare d/b/a)	100%	Scott Fetzer	5811 Kennett Pike, Suite 5	Wilmington	DE	19807	X
American All Risk Insurance Services, Inc.	100%	Columbia Insurance	P.O. Box 881236	San Francisco	CA	94188	X
American Athletic, Inc. (d/b/a for Russell Brands, LLC)	100%	Russell Corporation	200 American Avenue	Jefferson	IA	50129	X
American Commercial Claims Administrators, Inc.	100%	Columbia Insurance	P.O. Box 423870	San Francisco	CA	94102	X
American Dairy Queen Corporation	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	X

BERKSHIRE HATHAWAY INC. (10% and greater)

American Employers Group, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
American Express (China) Ltd.	14.65%	American Express	World Trade Center No. 1 Jian Guo Men Wai Avenue	Beijing	China		X
American Express (India) Private Ltd.	14.65%	American Express	Mercantile House, 1st Floor, 15 Kasturba Gandhi Marg	New Delhi	India	110001	X
American Express (Malaysia) Sdn. Bhd.	14.65%	American Express	18th Floor, Menara Weld, Jalan Raja Chulan	Kuala Lumpur	Malaysia	50200	X
American Express (Thai) Co. Ltd.	14.65%	American Express	4th Floor, SP Building, 388 Phaholyothin Road	Samsennai Phayathai	Bangkok	10400	X
American Express Advanced Services Europe Limited	14.65%	American Express	Belgrave House, 76 Buckingham Palace Rd	London	England	SW1W 9AX	X
American Express Argentina, S.A.	14.65%	American Express	Arenales 707 - PB, Plaza San Martin	Buenos Aires	Argentina	C1061AAA	X
American Express Asia Network Consulting (Beijing) Limited Company	14.65%	American Express	Oriental Plaza, No. 1 East Chang An Ave	Dong Cheng Dist Beijing	China	100738	X
American Express Asset Management Holdings, Inc.	14.65%	American Express	1209 Orange Street	Wilmington, New Castle	DE	19801	X
American Express Assurances	14.65%	American Express	11 Rue Scribe	Paris	France	75009	X
American Express ATM Holdings, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express Australia Limited	14.65%	American Express	Level 17, 175 Liverpool Street	Sydney	Australia	NSW 2000	X
American Express Austria Bank GmbH	14.65%	American Express	Kaerntner Strasse 21-23	Vienna	Austria	1015	X
American Express Bank (Mexico), S.A.	14.65%	American Express	Patriotismo 635-4, Col. Ciudad de los Deportes	Mexico City	Mexico	03710	X
American Express Bank (Switzerland) S.A.	14.65%	American Express	50 rue du Rhone	Geneve	Switzerland		X
American Express Bank (Uruguay) S.A.	14.65%	American Express		Montevideo	Uruguay	11100	X
American Express Bank Asset Management (Cayman) Limited	14.65%	American Express			Cayman Islands		X
American Express Bank Asset Management Company (Luxembourg) S.A.	14.65%	American Express	74, rue Mühlenweg	L-2155 Luxembourg	R.C.S. Luxembourg	B 110.242	X
American Express Bank FSB	14.65%	American Express	P.O. Box 30384	Salt Lake City	UT	84130	X
American Express Bank GmbH	14.65%	American Express	Theodor-Heuss-Allee 112	Frankfurt	Germany	D-60486	X
American Express Bank International	14.65%	American Express	US Embassy Office	Baridhara	Dhaka		X
American Express Bank LLC	14.65%	American Express	33 Usacheva St., Building 1	Moscow	Russia	119048	X
American Express Bank Services, S.A. de C.V.	14.65%	American Express	Paseo de la Reforma 350, Floor 20th, Col. Juarez	Mexico City	Mexico	06600	X
American Express Bank, FSB	14.65%	American Express	4315 South 2700 West	Salt Lake City	UT	84184	X

BERKSHIRE HATHAWAY INC. (10% and greater)

American Express Banking Corp.	14.65%	American Express	90 Hudson Street	Jersey City	NJ	07302	X
American Express Barcelo Viajes SL	14.65%	American Express	Calle Juan Ignacio Luca de Tena 17	Madrid	Spain	28027	X
American Express Brasil Assessoria Empresarial Ltda.	14.65%	American Express	Av. Das Nações Unidas 14.171	Sao Paulo	Brazil	04794-000	X
American Express Bureau de Change S.A.	14.65%	American Express			Greece		X
American Express Business Loan Corporation	14.65%	American Express	200 Vessey Street	New York	New York	10285	X
American Express Business Solutions Co. Ltd.	14.65%	American Express					X
American Express Business Travel A/S	14.65%	American Express	Nansensgade 19	Copenhagen	Denmark	1366	X
American Express Business Travel AB	14.65%	American Express	Magnus Ladulaasgatan 5	Stockholm	Sweden	S-106 82	X
American Express Business Travel ApS	14.65%	American Express	200 Vessey Street	New York	New York	10285	X
American Express Business Travel AS	14.65%	American Express	Postboks 455, Sentrum	Oslo	Norway	N-0103	X
American Express Canada Credit Corporation	14.65%	American Express	101 McNabb Street	Markham	Ontario, Canada	L3R 4H8	X
American Express Canada Finance Limited	14.65%	American Express			Canada		X
American Express Canada Holdings B.V.	14.65%	American Express		Amsterdam	Netherlands		X
American Express Capital Australia	14.65%	American Express	Level 1, 12 Shelley Street	Sydney	Australia	NSW 2000	X
American Express Card (Thai) Co. Ltd.	14.65%	American Express			Thailand		X
American Express Card Espana, S.A.U.	14.65%	American Express	Calle Juan Ignacio Luca de Tena 17	Madrid	Spain	28027	X
American Express Carte France, S.A.	14.65%	American Express	4 rue Louis Bleriot	Rueil Malmaison	France	92500	X
American Express Centurion Bank	14.65%	American Express	4315 South 2700 West	Salt Lake City	UT	84184	X
American Express Centurion Services Corporation	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express Change SAS	14.65%	American Express	4 rue Louis Bleriot	Rueil Malmaison	France	92500	X
American Express Commercial Card AB	14.65%	American Express	Magnus Ladulåsgatan 5	Stockholm	Sweden	10682	X
American Express Company	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express Company (Mexico) S.A. de C.V.	14.65%	American Express	Avenida Patriotismo #635, Col. Cuidad de los Deportes	Mexico City	Mexico	03710	X
American Express Company A/S	14.65%	American Express	Postboks 229, Sentrum	Oslo	Norway	N-0103	X

BERKSHIRE HATHAWAY INC. (10% and greater)

American Express Company SpA	14.65%	American Express	Postboks 229, Sentrum	Oslo	Norway	N-0103	X
American Express Continental, LLC	14.65%	American Express					X
American Express Corporate Travel BVBA	14.65%	American Express	Alma Ct, Lenneke Marelaan 6	Sint-Stevens-Woluwe	Belgium	1932	X
American Express Corporate Travel SA	14.65%	American Express	Alma Ct, Lenneke Marelaan 6	Sint-Stevens-Woluwe	Belgium	1932	X
American Express Credit Corporation	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express Credit Mexico, LLC	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express de Espana, S.A.	14.65%	American Express	Juan Ignacio Luca de Tena 17	Madrid	Spain	28027	X
American Express Denmark A/S	14.65%	American Express	Turesensgade 22	Copenhagen	Denmark	1368	X
American Express do Brasil Consultoriae Servicos Internacionais Ltda.	14.65%	American Express			Brazil		X
American Express do Brasil Representacoes Ltda.	14.65%	American Express			Brazil		X
American Express Dutch Capital, LLC	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express E.F.C., S.A.	14.65%	American Express	Cl Juan Ignacio Luca de Tena, 17	Madrid	Spain	28027	X
American Express Entidad Financiera de Credito S.A.U.	14.65%	American Express			Spain		X
American Express Euro Funding Limited Partnership	14.65%	American Express	41/43 La Motte Street	St. Helier, Jersey	Channel Islands	JE2 4SZ	X
American Express Euro Travel Holdings B.V.	14.65%	American Express	Hoogoorddriif 15	Amsterdam	Netherlands	1101 BA	X
American Express Europe Limited	14.65%	American Express	Amex House, Edward Street	Brighton	UK	BN88 1AH	X
American Express Europe LLC	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express European Holdings B.V.	14.65%	American Express					X
American Express Financial Services (Luxembourg) S.A.	14.65%	American Express	74 Mühlenweg	Luxembourg	Luxembourg	2155	X
American Express Financial Services Europe Limited	14.65%	American Express	Belgrave House, 76 Buckingham Palace Rd	London	UK	SW1W 9AX	X
American Express FinanzManagement GmbH	14.65%	American Express	Kurfürsten-Anlage 36	Heidelberg	Germany	69115	X
American Express Foreign Exchange S.A.	14.65%	American Express	Calle Juan Ignacio Luca de Tena 17	Madrid	Spain	28027	X
American Express Foreign Exchange Services India Limited	14.65%	American Express	Mercantile House, 1st Floor, 15 Kasturba Gandhi Marg	New Delhi	India	110001	X
American Express France Finance SNC	14.65%	American Express	4 rue Louis Bleriot	Rueil Malmaison	France	92500	X

BERKSHIRE HATHAWAY INC. (10% and greater)

American Express France Holdings I LLC	14.65%	American Express	4 rue Louis Bleriot	Rueil Malmaison	France	92500	X
American Express France Holdings II LLC	14.65%	American Express	4 rue Louis Bleriot	Rueil Malmaison	France	92500	X
American Express France SAS	14.65%	American Express	4 rue Louis Bleriot	Rueil Malmaison	France	92500	X
American Express Funding (Luxembourg) S.a.r.l.	14.65%	American Express	41/43 La Motte Street	St. Helier, Jersey	Channel Islands	JE2 4SZ	X
American Express Global Financial Services, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express GP Japan K.K.	14.65%	American Express	4-30-16, Ogikubo, Sugunami-ku	Tokoyo	Japan	167-800	X
American Express Group Services Limited	14.65%	American Express	Belgrave House, 76 Buckingham Palace Road	London	England	SW1W 9AX	X
American Express Holdings (France) SAS	14.65%	American Express	4 rue Louis Bleriot	Rueil Malmaison	France	92500	X
American Express Holdings AB	14.65%	American Express	Magnus Ladulåsgatan 3-5	Stockholm	Sweden	10682	X
American Express Holdings Limited	14.65%	American Express	76 Buckingham Palace Road	London	England	SW1W AX	X
American Express Holdings Netherlands CV	14.65%	American Express	24 Howard St, P.O. Box 674	Grand Cayman	Cayman Islands	KY1-1107	X
American Express Hungary Finance Company KFT	14.65%	American Express	Váci út 33	Budapest	Hungary	1134	X
Services Closed Company Limited by Shares	14.65%	American Express	Váci út 33	Budapest	Hungary	1134	X
American Express Hungary Financial Services Ltd.	14.65%	American Express	Váci út 33	Budapest	Hungary	1134	X
American Express Hungary Travel Related Services Ltd.	14.65%	American Express	Váci út 33	Budapest	Hungary	1134	X
American Express Incentive Services, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express Insurance Agency of Puerto Rico, Inc.	14.65%	American Express	#15 C2, Suite 400, Millenium Park Plaza, Metro Office Park	Guaynabo	Puerto Rico	00968	X
American Express Insurance Services Agente de Seguros SA de CV	14.65%	American Express	Avenida Patriotismo #635, Col. Cuidad de los Deportes	Mexico City	Mexico	03710	X
American Express Insurance Services Europe Limited	14.65%	American Express	60 Buckingham Palace Road	London	England	SW1W 0RR	X
American Express International (B) SDN. BHD.	14.65%	American Express	Units 405-410, Wisma Jaya, Jalan Pemanca, Bandar Seri	Begawan	Brunei Darussalam	BS8811	X
American Express International (India) Private Limited	14.65%	American Express	Mercantile House, 1st Floor, 15 Kasturba Gandhi Marg	New Delhi	India	110001	X
American Express International (NZ), Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express International (Taiwan), Inc.	14.65%	American Express	12th Floor, No. 363, Fu-Hsing North Rd.	Taipei	Taiwan, China	105	X
(Greece) (99% owned by American Express)	14.17%	American Express	31 Panespistimiou	Athens	Greece		X

BERKSHIRE HATHAWAY INC. (10% and greater)

American Express International Corporation	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express International Holdings, LLC	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express International SA	14.65%	American Express	Mesoghion 318, Ag. Paraskevi	Athens	Greece	15341	X
"AMERICAN EXPRESS INTERNATIONAL SERVICES" Limited Liability Company	14.65%	American Express					X
American Express International Services Ltd.	14.65%	American Express	17 Gazetnyy per	Moscow	Russia		X
American Express International, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express Investment Management Ltd.	14.65%	American Express	PO Box 309, Ugland House	Grand Cayman	Cayman Islands	KY1-1104	X
American Express Japan Co., Ltd.	14.65%	American Express	4-30-16, Ogikubo, Suginami-ku	Tokyo	Japan	167-800	X
American Express Jersey Finance Limited	14.65%	American Express	Meghraj House, La Motte St.	St Helier, Jersey	UK	JE2 4SZ	X
American Express Limited	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express Locazioni Finanziarie, S.r.l.	14.65%	American Express	Largo Dei Caduti Di El Alamein 9	Rome	Italy	00173	X
American Express Luxembourg S.a.r.l.	14.65%	American Express		Luxembourg	Luxembourg		X
American Express Management SNC	14.65%	American Express	4 rue Louis Bleriot	Rueil Malmaison	France	92500	X
American Express Marketing & Development Corp.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express Overseas Credit Corporation Limited	14.65%	American Express	41/43 Lane Motte Street	St Helier, Jersey	Channel Islands	JE2 4SZ	X
American Express Overseas Credit Corporation N.V.	14.65%	American Express	41/43 Lane Motte Street	St Helier, Jersey	Channel Islands	JE2 4SZ	X
American Express Paris SAS	14.65%	American Express	11 Rue Scribe	Paris	France	75009	X
American Express Payment Services Limited	14.65%	American Express	Belgrave House, 76 Buckingham Palace Road	London	England	SW1W 9AX	X
American Express Poland S.A.	14.65%	American Express	ul. Chłodna 51	Warszawa	Poland	00-867	X
American Express Prepaid Card Management Corporation	14.65%	American Express	20022 N 31st Avenue	Phoenix	AZ	85027	X
American Express Publishing Corporation	14.65%	American Express	1120 Avenue of the Americas	New York	NY	10036	X
American Express Receivables Financing Corporation II	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express Receivables Financing Corporation III LLC	14.65%	American Express	4315 South 2700 West	Salt Lake City	UT	84184	X
American Express Receivables Financing Corporation IV LLC	14.65%	American Express	4315 South 2700 West	Salt Lake City	UT	84184	X

BERKSHIRE HATHAWAY INC. (10% and greater)

American Express Receivables Financing Corporation V LLC	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express Receivables Financing Corporation VIII LLC	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
American Express Reisebuero GmbH	14.65%	American Express	Kaerntner Strasse 21-23	Vienna	Austria	1015	X
American Express Service (Thailand) Company Limited	14.65%	American Express	SPBuilding, 388 Phaholyothin Road, Samsennai, Phayathai	Bangkok	Thailand	10400	X
American Express Services Europe Limited	14.65%	American Express	76 Buckingham Palace Road	London	England	SW1W 9AX	X
American Express Services India Limited (99.99% owned by American Express)	14.31%	American Express	Mercantile House, 1st Floor, 15 Kasturba Gandhi Marg	New Delhi	India	110001	X
American Express Services S.A.	14.65%	American Express	4 rue Louis Bleriot	Rueil Malmaison	France	92500	X
American Express Servicios Profesionales, S.A. de C.V.	14.65%	American Express	Avenida Patriotismo #635, Col. Ciudad de los Deportes	Mexico City	Mexico	03710	X
American Express Slovensko s.r.o.	14.65%	American Express	Kuzmányho 8	Bratislava	Slovakia	811 06	X
American Express spol. s.r.o.	14.65%	American Express	Na Příkopě 19	Prague	Czech Republic	117 19	X
American Express Sterling Funding Limited Partnership	14.65%	American Express	41/43 La Motte Street	St. Helier, Jersey	Channel Islands	JE2 4SZ	X
American Express Superannuation Pty Limited	14.65%	American Express	Level 1, 12 Shelley Street	Sydney	Australia	NSW 2000	X
American Express Swiss Holdings GmbH	14.65%	American Express	Seefeldstrasse 214	Zurich	Switzerland	8008	X
American Express Technology Service (Hangzhou) Company Limited	14.65%	American Express		Hangzhou	China		X
American Express TLS HK Limited	14.65%	American Express	18/F, Cityplaza 4, 12 Taikoo Wan Road	Taikoo Shing	Hong Kong		X
American Express Travel (Singapore) PTE Ltd.	14.65%	American Express	1 Robinson Road, #17-00, AIA Tower	Singapore	Singapore	048542	X
American Express Travel Holdings (Hong Kong) Limited	14.65%	American Express	18/F, Cityplaza 4, 12 Taikoo Wan Road	Taikoo Shing	Hong Kong		X
American Express Travel Holdings (M) Company SDN, BHD	14.65%	American Express	18th Floor, Menara Weld, Jalan Raja Chulan	Kuala Lumpur	Malaysia	50200	X
American Express Travel Holdings Netherlands B.V.	14.65%	American Express	Hoogoorddreef 15 Atlas Arena	Amsterdam	Netherlands	1101 BA	X
American Express Travel Holdings Netherlands Cooperatief U.A.	14.65%	American Express	Hoogoorddreef 15 Atlas Arena	Amsterdam	Netherlands	1101 BA	X
American Express Travel Related Services	14.65%	American Express	6500 Tracor Ln	Austin	TX	78725	X
American Express Travel Related Services Company, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285-0002	X
American Express Travel Related Services Pakistan (Pvt.) Ltd.	14.65%	American Express	112Rafi Mansion Shahrah-e-Quaid-e-Azam	Lahore	Pakistan		X
American Express Travel Services Vostok, LLC	14.65%	American Express	UL USACHEVA, D 33, STR 1	Moscow	Russia	119048	X

BERKSHIRE HATHAWAY INC. (10% and greater)

American Express Viajes, S.A.	14.65%	American Express	Calle Juan Ignacio Luca de Tena 17	Madrid	Spain	28027	X
American Express Voyages SAS	14.65%	American Express	4 rue Louis Bleriot	Rueil Malmaison	France	92500	X
American Express Wholesale Currency Services Pty. Limited	14.65%	American Express	Level 3, 60 Margaret Street	Sydney	Australia	NSW 2000	X
American Fork Dialysis, LLC	17.95%	DaVita Healthcare	1175 E 50 S # 111	American Fork	UT	84003	X
American Funding (Luxembourg) S.a.r.l.	14.65%	American Express		Luxembourg	Luxembourg		X
American Sportswear, S.A.		Russell Corporation	Alameda Santos 1800, 4th. Fl., Cj. 4A	Sao Paulo	Brazil	01418-200	X
American Tile Supply Inc.		Acme Brick	2839 Merrell Road	Dallas	TX	75229	X
AmeriCash LLC	14.65%	American Express	5 East 59th Street, 3rd Floor	New York	NY	10039	X
AmeriCash, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Ameritrack Rail		Marmon	655 South Prairie Ave.	Frankfort	IN	46061	X
Amery Dialysis, LLC	17.95%	DaVita Healthcare	970 Elden Avenue	Amery	WI	54001	X
Amex (Saudi Arabia) Limited	14.65%	American Express	Al Maather Street, PO Box 6624	Riyadh	Saudi Arabia	11452	X
Amex Al Omania LLC	14.65%	American Express	PO Box 833, Al Khowair	Muscat	Oman	112	X
Amex Asesores de Seguros, S.A.	14.65%	American Express	Calle Juan Ignacio Luca de Tena 17	Madrid	Spain	28027	X
Amex Assurance Company	14.65%	American Express	19640 N 31st Avenue	Phoenix	AZ	85027	X
Amex Bank Nominee Hong Kong Limited	14.65%	American Express	36/F One Pacific Place, Admiralty	Hong Kong	Hong Kong		X
Amex Bank of Canada	14.65%	American Express	101 McNabb St	Markham	Ontario, Canada	L3R 4H8	X
Amex Broker Assicurativo S.r.l.	14.65%	American Express	Largo Dei Caduti Di El Alamein 9	Rome	Italy	00173	X
Amex Canada Inc.	14.65%	American Express	101 McNabb St	Markham	Ontario, Canada	L3R 4H8	X
Amex Card Services Company	14.65%	American Express	4315 South 2700 West	Salt Lake City	UT	84184	X
Amex Cyber International Ltd.	14.65%	American Express			British Virgin Islands		X
Amex Egypt Company Limited Liability Company	14.65%	American Express	City Stars Complex Star Capital 8 Office No. 22	Heliopolis, Cairo	Egypt	11371	X
Amex Egypt LLC	14.65%	American Express	City Stars Admin Tower, 2A, Omar Ibn Elkhattub Street	Nasr City, Cairo	Egypt		X
Amex Funding Management (Europe) Limited	14.65%	American Express	41/43 Lane Motte Street	St Helier, Jersey	UK	JE2 4SZ	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Amex General Insurance Agency, Inc.	14.65%	American Express	12th Floor, No. 363, Fu-Hsing North Rd.	Taipei	Taiwan, China	105	X
Amex Global Holdings C.V.	14.65%	American Express	Level 1, 12 Shelley Street	Sydney	Australia	NSW 2000	X
Amex Holdings, Inc.	14.65%	American Express	301 N Walnut St., Suite 1001	Wilmington	DE	19801-2912	X
Amex Inmobiliaria Limitada	14.65%	American Express	Avenida Isidora Goyenechea 3,621, Office 1.001, Las Condes	Santiago	Chile	7550110	X
Amex International Trust (Cayman) Ltd.	14.65%	American Express	P.O. Box 674, 24 Howard St., Corporate Plaza	Grand Cayman	Cayman Islands	KY1-1107	X
Amex International Trust (Guernsey) Limited	14.65%	American Express	PO Box 620, First Floor, Barclays Court, Les Echelons, South Esplanade	St Peter Port	Guernsey, Channel Islands	GY1 4PX	X
Amex Latin American Holdings S.L.	14.65%	American Express	Calle Juan Ignacio Luca de Tena 17	Madrid	Spain	28027	X
Amex Life Insurance Marketing, Inc.	14.65%	American Express			Taiwan	China	X
Amex Marketing Japan Limited	14.65%	American Express	200 Vessey St	New York	NY	10285	X
Amex NL Holdings 99, LLC	14.65%	American Express					X
Amex Nominees (S) Pte Ltd.	14.65%	American Express			Singapore		X
Amex Oman LLC	14.65%	American Express	Building No. 1022, Al Walaj St, Way No. 1013, Ernst & Young Building	Al Qurum	Oman		X
Amex Pre-Paid Card Y.K.	14.65%	American Express			Japan		X
Amex Services, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Amex Taiwan Trust	14.65%	American Express					X
Amex Travel Holding (Japan) Ltd.	14.65%	American Express	4-30-16, Ogikubo, Suginami-ku	Tokoyo	Japan	167-800	X
Amexco Insurance Company	14.65%	American Express	100 Bank St., Suite 610	Burlington	VT	05401-4697	X
AmGUARD Insurance Company	100%	National Indemnity	16 South River Street	Wilkes-Barre	PA	18703	X
Amherst New Era Progress	100%	BH Media	134 Second Street	Amherst	VA	24521	X
AML Group Limited		Marmon	57 Hung To Road, Nanyang Plaza, 29th Floor	Kwun Tong	Hong Kong		X
Anderson Copper and Brass Company LLC	100%	Marmon	4325 Frontage Road	Oak Forest	IL	60452	X
Anderson Hardwood Floors, LLC	100%	Shaw	384 Charlottes Road	Clinton	SC	29325	X
Anderson Kidney Dialysis, LLC	17.95%	DaVita Healthcare	1122 N Roosevelt Blvd, Key Plaza	Key West	FL	33040	X
Anest Iwata Campbell KK	33%	Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Animas Dialysis, LLC	17.95%	DaVita Healthcare	1721 W Whittier Blvd	Montebello	CA	90640	X
ANP LLC		Marmon	19905 4th Avenue SW	Normandy Park	WA	98166	X
Apaneca Manufacturing Ltda., de C.V.	100%	Fruit of the Loom		Santa Ana	El Salvadore		X
Apeks Apparel Co., Inc.		Fruit of the Loom	120 Cartertown Road	Scottsville	KY	42164	X
(Gateway Underwriters Agency, Inc. d/b/a Apogee Insurance Group)	80%	Gateway Underwriters	1190 Devon Park Drive	Wayne	PA	19087	X
Applied Group Insurance Holdings, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
Applied Investigations, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
Applied Logistics, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
Applied Premium Finance, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
Applied Processing Center No. 60, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
Applied Risk Services of New York, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
Applied Risk Services, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
Applied Underwriters Captive Risk Assurance Company	100%	Applied Underwriters	2929 North 44th Street #120	Phoenix	AZ	85018	X
Applied Underwriters Captive Risk Assurance Company, Inc.	100%	Applied Underwriters	425 2nd Street, Ste 1010	Cedar Rapids	IA	52401	X
Applied Underwriters, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
Aqua Works Private Limited	100%	Marmon	36/4, 2nd Floor, Raghavendra Nagar, 4th Cross, Near Ring Road, Hrbr Layout	Bangalore, Karnataka	India	560043	X
Aquamatic H2O Solutions Private Limited	100%	Marmon	36/4, 3rd Floor, Raghavendra Nagar, 4th Cross, Near Ring Road, Hrbr Layout	Bangalore, Karnataka	India	560043	X
Aragreen Properties, L.C.	100%	BH Auto	P.O. Box 795	Shawnee Mission	KS	66201	X
Arbortech (d/b/a for Scott Fetzer Company)	100%	Scott Fetzer	3203 West Old Lincoln Way	Wooster	OH	44691	X
Arcadia Gardens Dialysis, LLC	17.95%	DaVita Healthcare	3722 E Colorado Blvd	Pasadena	CA	91107	X
Arch City Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	390 N. Valley Dell Drive, P.O. Box 1099	Fenton	MO	63026	X
Arcobalegno S.R.L.	100%	Larson Juhl	via Adige 10, Zona Indsutriale Mellaredo	Pianiga (Venezia)	Italy	30030	X
Ardent Risk Services, Inc.		General Re	695 Main Street	Stamford	CT	06901	X
Argentamex S.A.	14.65%	American Express		Capital Federal	Argentina		

BERKSHIRE HATHAWAY INC. (10% and greater)

Arizona Integrated Physicians, Inc.	17.95%	DaVita Healthcare	16155 N. 83rd Avenue, Ste 201	Peoria	AZ	85382	X
Army Flier	100%	BH Media	Public Affairs Office, Bldg 131	Fort Rucker	AL	36362	X
Arqadia Limited	100%	Larson Juhl	2 Wolseley Road, Kempston	Bedford	UK	MK42 7AD	X
Arrowhead Cadillac (d/b/a for Bell Road Motors, LLC)	83%	BH Auto	8310 West Bell Road Bell Rd.	Glendale	AZ	85308	X
Arrowhead Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	15660 S. Keeler Terrace	Olathe	KS	66062	X
Artex Automotive Sales II, LLC	86%	BH Auto	1100 W I-20	Arlington	TX	76017	X
Artform International Inc.	100%	Marmon	520 South Fulton Avenue	Mount Vernon	NY	10550	X
Artform International Ltd.	100%	Marmon	Bishop Meadow Road	Loughborough Leicestershire	UK	LE11 5TH	X
Artisan American JPA, L.P.	99.99%	Affordable Housing	201 St. Charles Avenue, Suite 4400	New Orleans	LA	70170	X
Asamera Oil (U.S.) Inc.	11.4%	Phillips 66	4545 East 52nd Ave.	Denver	CO	80022	X
Asesorias e Inversiones American Express Chile Limitada	14.65%	American Express	Isidora Goyenechea 3621, Piso 10 Las Condes	Santiago	Chile	7550110	X
Asia Pacific Investment Corporation	26.86%	Kraft Heinz	Level 8, 490 Upper Edward St	Brisbane	Queensland, Australia		X
Asian Restaurants Limited	26.86%	Kraft Heinz	South Building Hayes Park Hayes End Road	Hayes, Middlesex	England	UB4 8EE	X
Associated Aviation Underwriters Limited	100%	National Indemnity	Fitzwilliam House, 10 St. Mary Axe	London	England	EC3A 8EQ	
Astha Amarillo Gear Private Limited	51%	Marmon	B-21, Industrial Estate	Sanathnagar, Hyderabad	India	500018	X
Astha Sterling Crane Private Limited	51%	Marmon	B-1, I.E., Sanathnagar	Hyderabad, Andhra Pradesh	India	500018	X
Astrex Electronics, Inc.	100%	TTI	205 Express Street	Plainview	NY	11803	
Astrex Holding Company	100%	TTI	205 Express Street	Plainview	NY	11803	
Astro, Hobby, West Mt. Renal Care Limited Partnership	17.95%	DaVita Healthcare	8560 Monroe Road	Houston	TX	77061	X
Athletic de Camargo, S.A. de C.V.	100%	Fruit of the Loom	Libertad #2 Colonia Abraham Gonzalez	Camargo	CHI	33778	X
Atlanta International Insurance Company	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
Atlantic City Weekly	100%	BH Media	1000 W. Washington Avenue	Pleasantville	NJ	08232	X
Atlantic Dialysis, LLC	17.95%	DaVita Healthcare	385 Seneca Avenue	Queens	NY	11385	X
Atlantis France SAS	100%	Larson Juhl	Boulevard Courcerin	Lognes	France	77185	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Atlas Bolt & Screw (Shenzhen) Co. Limited	100%	Marmon	West Lanzhu Road	Pingshan, Longgang	Shenzhen, China		X
Atlas Bolt & Screw (Zhongshan) Co. Ltd.	100%	Marmon	GU ER Industril Zone	Guzhen	Zhongshan, China		X
Atlas Bolt & Screw Company LLC	100%	Marmon	1628 Troy Road	Ashland	OH	44805	X
ATM One, LLC	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
AttPro RRG Reciprocal Risk Retention Group		Medical Protective		Washington	DC		X
AU Captive Risk Assurance Co., Inc.		Applied Underwriters					X
AU Holding Company, Inc.	81%	Berkshire Hathaway		Omaha	NE		X
Audi of Springfield (d/b/a for Reliable Motors (AU), LLC)	81%	BH Auto	3521 E. Sunshine	Springfield	MO	65809	X
AUI Employer Group No. 42, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
Aurafin Italia S.R.L.		Richline Group	Via Guglielmo Marconi, 84	San Zenone Degli Ezzelini	Italy	31020	X
Austin Dialysis Centers, L.P.	17.95%	DaVita Healthcare	6114 S 1st Street	Austin	TX	78745	X
Auto Media, LLC	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	75014	X
B. Lippman Inc. of Delaware	100%	Fechheimer	505 Morris Avenue	Springfield	NJ	07081	X
B. Mannebeck Landtechnik GmbH		CTB International	Industriestraße 7	Schüttorf	Germany	D-48465	X
B.L. Intimate Apparel Canada Inc.	50%	Fruit of the Loom	9500 Rue Meilleur Bureau 111	Montreal	Quebec Canada	H2N 2B7	X
B.V.B.A. Ragoen S.P.R.L.		Fruit of the Loom	Pantserstraat 9A	Roeselare	Belgium	B-8800	X
BA(GI) Limited	100%	National Indemnity	878 Washwood Heath Road	Birmingham, West Midlands	England	B8 2NB	X
Bagby Dialysis, LLC	17.95%	DaVita Healthcare	671 Ozark Road	Abbeville	AL	36310	X
BAIG Limited	100%	National Indemnity	Fitzwilliam House, 10 St. Mary Axe	London	England	EC3A 8EQ	
Bainbridge Dialysis, LLC	17.95%	DaVita Healthcare	1000 St. Louis Ave., Ste 101	Fort Worth	TX	76104	X
Balcor Corporate Development Services, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Balsamar Manufacturing, Limitada, de C.V.	100%	Fruit of the Loom		Santa Ana	El Salvadore		X
Barnett Drywall & Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	1415 E. Broadway	Pearland	TX	77581	X
Baroness Small Estates, Inc.	100%	McLane	2395 West 2nd Ave., Suite 36	Denver	CO	80223	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Barrie & Hibbert Asia Ltd.	12.07%	Moody's	Level 19, Two International Finance Center	Central Hong Kong	China		X
Barrie & Hibbert Inc.	12.07%	Moody's	28th Floor, 40 Wall Street	New York	NY		X
Barrie & Hibbert Ltd.	12.07%	Moody's	7 Exchange Crescent, Conference Square	Edinburgh	Scotland	EH3 8RB	X
Barrington Dialysis, LLC	17.95%	DaVita Healthcare	1805 Sinclair Ave	Steubenville	OH	43953	X
Barth Lijsten Boxel B.V.	100%	Larson Juhl	Mijlstraat 18	Boxtel	Netherlands	5281LL	X
Barton Dialysis, LLC	17.95%	DaVita Healthcare	2901 E Grant Road	Tucson	AZ	85716	X
Basin Dialysis, LLC	17.95%	DaVita Healthcare	3050 S Dixie Drive	Kettering	OH	45409	X
Bastrop Dialysis, LLC	17.95%	DaVita Healthcare	1111 Sweitzer St, Suite B	Greenville	OH	45331	X
Bat Schnellbautelle GmbH		MiTek			Germany		X
Battery Properties, Inc.	26.86%	Kraft Heinz	101 Mallory Drive	Glasgow	KY	42141-1039	X
Battery Technology Group Inc.		MiTek	2380 Speakman Drive	Mississauga	Ontario, Canada	L5K 1B4	X
Bay Paint Co. Inc. d/b/a Heritage Paint & Decorating		Benjamin Moore	9439 Katy Highway	Houston	TX	77024	X
Bayou Oaks Homes, LP	99.99%	Affordable Housing		Donaldsonville	LA		X
Bayport Systems, Inc.	100%	BNSF Railway	PO Box 961101	Fort Worth	TX	76161-0101	X
BayRail, LLC	100%	BNSF Railway	3921 East Bayshore Rd.	Palo Alto	CA	94303	X
BCC Corporate NV/SA	14.65%	American Express	Haachtsesteenweg 1426	Brussels	Belgium	1130	X
BCC Development Limited Partnership	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X
BCC Development, Inc.	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X
Beachside Dialysis, LLC	17.95%	DaVita Healthcare	19265 Vernier Road	Harper Woods	MI	48225	X
Beacon Dialysis, LLC	17.95%	DaVita Healthcare	1447 Highway 6, Suite 130	Sugar Land	TX	77478	X
Bear Creek Dialysis, L.P.	17.95%	DaVita Healthcare	4978 Highway 6 N # 1	Houston	TX	77084	X
Beard Industries (d/b/a for CTB, Inc.)	100%	CTB, Inc.	1750 West State Road 28	Frankfort	IN	46041	X
Beck Dialysis, LLC	17.95%	DaVita Healthcare	4421 Roosevelt Blvd Suite D	Middletown	OH	45044	X
Belgium Travel	14.65%	American Express			Belgium		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Bell Honda (d/b/a for BHVT Motors, LLC)	93%	BH Auto	701 W. Bell Road	Phoenix	AZ	85023	X
Bell Road Motors, LLC	83%	BH Auto	8310 West Bell Road	Glendale	AZ	85308	X
Bellevue Dialysis, LLC	17.95%	DaVita Healthcare	2222 Greenhouse Road	Houston	TX	77084	X
Bellevue Leader (d/b/a for Suburban Newspapers, Inc.)		BH Media	604 Fort Crook Road North	Bellevue	NE	68005	X
Bel-Oro SpA	100%	Richline Group			Italy		X
Ben Bridge Corporation	100%	Ben Bridge	2901 Third Avenue	Seattle	WA	98121	X
Ben Bridge Jeweler, Inc.	100%	Ben Bridge	2901 Third Avenue, Suite 200	Seattle	WA	98121	X
Benjamin Moore & Co.	100%	Benjamin Moore	101 Paragon Drive	Montvale	NJ	07645	X
Benjamin Moore & Co. (Nova Scotia) ULC		Benjamin Moore	28 Borden Avenue	Dartmouth	Nova Scotia	B3B 1C8	X
Benjamin Moore & Co., Limited	100%	Benjamin Moore	8775 Keele Street	Concord	Ontario, Canada	L4K 2N1	X
Benson Industries, Inc.	100%	MiTek	1650 NW Naito Pkwy, Ste 250	Portland	OR	97209	X
Benson Industries, LLC		MiTek	1650 NW Naito Pkwy, Ste 250	Portland	OR	97209	X
Benson Industries, LP	100%	MiTek	1250 E. 223rd St. Suite 101	Carson	CA	90745	X
Benson LTD	100%	MiTek	1650 NW Naito Pkwy, Ste 250	Portland	OR	97209	X
Benson Subsidiary, LLC	100%	MiTek	1650 NW Naito Pkwy, Ste 250	Portland	OR	97209	X
Benson Wall Systems Philippines, Inc.	99.99%	MiTek	Unit 1204, 139 Corporate Center, Valero St., Salcedo Village	Makati City	Philippines	1227	X
Benson Wall Systems Pte. Ltd. Singapore	100%	MiTek	9 Gul Circle	Singapore		629565	X
Berkadia Commercial Mortgage Holding LLC	50%	Berkshire Hathaway	1440 Kiewit Plaza	Omaha	NE	68131	X
Berkadia Commercial Mortgage Inc.		Berkshire Hathaway	315 Park Avenue S Floor 20	New York	NY	10010	X
Berkadia Commercial Mortgage LLC	50%	Berkshire Hathaway	118 Welsh Road	Horsham	PA	19044	X
Berkadia Commercial Mortgage Partners LLC	50%	Berkshire Hathaway	1440 Kiewit Plaza	Omaha	NE	68131	X
Berkadia Equity Holdings LLC		Berkshire Hathaway	1440 Kiewit Plaza	Omaha	NE	68131	X
Berkadia II LLC		Berkshire Hathaway	1440 Kiewit Plaza	Omaha	NE	68131	X
Berkadia III, LLC		Berkshire Hathaway	1440 Kiewit Plaza	Omaha	NE	68131	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Berkadia LLC		Berkshire Hathaway	1440 Kiewit Plaza	Omaha	NE	68131	X
Berkadia Management LLC		Berkshire Hathaway	1440 Kiewit Plaza	Omaha	NE	68131	X
Berkshire Hathaway Assurance Corporation	100%	National Indemnity	Marine Air Terminal, LaGuardia Airport	New York	NY	11371	X
Berkshire Hathaway Automotive Inc.	83%	Berkshire Hathaway	8333 Royal Ridge Parkway, Suite 130	Irving	TX	75063	X
Berkshire Hathaway Credit Corporation	100%	National Indemnity	1440 Kiewit Plaza	Omaha	NE	68131	X
Berkshire Hathaway Direct Insurance Company	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
Berkshire Hathaway Finance Corporation	100%	Berkshire Hathaway	1440 Kiewit Plaza	Omaha	NE	68131	X
Berkshire Hathaway Global Insurance Services, LLC	100%	National Indemnity	100 Federal Street, 20th Floor	Boston	MA	02110	X
Berkshire Hathaway Group		Berkshire Hathaway	3024 Harney Street	Omaha	NE	68131	X
Berkshire Hathaway Homestate Companies		Berkshire Hathaway	9290 W Dodge Rd., Suite 300	Omaha	NE	68114	X
Berkshire Hathaway Homestate Insurance Company	100%	Berkshire Hathaway	P.O. Box 2048	Omaha	NE	68103	X
Berkshire Hathaway Inc.		Berkshire Hathaway	1440 Kiewit Plaza	Omaha	NE	68131	X
Berkshire Hathaway International Insurance Limited	100%	National Indemnity	Birchin Court, 20 Birchin Lane	London	England	EC3V 9DU	X
Berkshire Hathaway Life Insurance Company of Nebraska	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
Berkshire Hathaway Reinsurance (Ireland) Limited	100%	National Indemnity	3rd Floor Front Office 48 Upper Mount Street	Dublin	Ireland		X
Berkshire Hathaway Reinsurance Group		Berkshire Hathaway	100 1st Stamford Place #200	Stamford	CT	06902-6748	X
Berkshire Hathaway Services India Private Limited	80%	National Indemnity	F - 83 East Of Kailash	New Delhi	Delhi, India	110065	X
Berkshire Hathaway Specialty Concierge, LLC	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
Berkshire Hathaway Specialty Insurance Company	100%	National Indemnity	100 Federal Street, 20th Floor	Boston	MA	02110	X
Berkshire Hathaway Travel Protection (d/b/a for Berkshire Hathaway Specialty Concierge, LLC)	100%	National Indemnity	1145 Clark Street	Stevens Point	WI	54481	X
Berkshire Indemnity Group, Inc.	100%	BH, LLC	P.O. Box 3646	Omaha	NE	68103	X
Berkshire India Limited	80%	BHG Structured Settlements	1101, Naurang House, 21 K G Marg	New Delhi	India	110001	X
Berkshire India Private Limited		National Indemnity			India		X
BerkshireInsurance.com		Berkshire India		Gurgaon	India		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Beverly Dialysis, LLC	17.95%	DaVita Healthcare	2958 Robert C Byrd Drive	Beckley	WV	25801	X
Beverly Hills Dialysis Partnership	17.95%	DaVita Healthcare	50 N La Cienega Blvd, 3rd Floor, Suite 300	Beverly Hills	CA	90211	X
BF Holdings (UK) LTD	100%	Fruit of the Loom	Park Road East	Calverton	Nottingham, UK	NG1 4XG	X
BFVT Motors, LLC	66%	BH Auto	801 E State Highway 114	Grapevine	TX	76051	X
BH Columbia Inc.	100%	Berkshire Hathaway	3555 Farnam St., Suite 1440	Omaha	NE	68131	X
BH Credit LLC	100%	Berkshire Hathaway		Omaha	NE	68131	X
BH Finance LLC	100%	National Indemnity	1440 Kiewit Plaza	Omaha	NE	68131	X
BH Housing LLC	100%	Berkshire Hathaway		Omaha	NE		
BH Media Group Holdings, Inc.	100%	BH Media	1314 Douglas St., Suite 1500	Omaha	NE	68102	X
BH Media Group Inc.	100%	BH Media	1314 Douglas St., Suite 1500	Omaha	NE	68102	X
BH Shoe Holdings, Inc.	100%	HH Brown	124 W. Putnam Avenue	Greenwich	CT	06830	X
BH, LLC	100%	Applied Underwriters					X
BHG Life Insurance Company	100%	National Indemnity	3555 Farnam Street, Ste 1440	Omaha	NE	68131	X
BHG Structured Settlements, Inc.	100%	Columbia Insurance	1714 Deer Tracks Trail, Suite 1210	St. Louis	MO	63131	X
BHHC Specialty Risk, LLC	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
BH-IMC Holdings B.V.	100%	Berkshire Hathaway	Fred. Roeskestraat 123	Amsterdam	Netherlands	1076	X
BHSF, Inc.	100%	Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X
BHVT Motors, LLC	93%	BH Auto	701 W. Bell Road	Phoenix	AZ	85023	X
Bidwell Dialysis, LLC	17.95%	DaVita Healthcare	201 S Jupiter Road	Allen	TX	75002	X
Bielizna Ekskluzywna Sp.z.o.o.		Fruit of the Loom	Piotrkowska 138	Lodz	Poland	90-00	X
Bike Athletic Company (a division of Russell Corporation)	100%	Russell Corporation	3330 Cumberland Blvd., Ste 700	Atlanta	GA	30339	X
Birch Dialysis, LLC	17.95%	DaVita Healthcare	9050 N Church Drive	Cleveland	OH	44130	X
Birdsong Limited	14.65%	American Express	Queens Bldg., 5-7 James Street	Liverpool	England	L2 7XB	X
Bladon Dialysis, LLC	17.95%	DaVita Healthcare	1901 N Waldron Street	Hutchinson	KS	67502	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Blake Dialysis, LLC	17.95%	DaVita Healthcare	N54 W6135 Mill St., Ste 500	Cedarburg	WI	53012	X
Blanco Dialysis, LLC	17.95%	DaVita Healthcare	2480 E Apple Ave., Unit E	Muskegon	MI	49442	X
Bliss Dialysis, LLC	17.95%	DaVita Healthcare	4800 W San Antonio St, Ste 200	Broken Arrow	OK	74012	X
Blok-Lok Limited	100%	MiTek	12 Ashbridge Circle	Woodbridge	Ontario, Canada	L4L 3R5	X
Blue Angel Pumps (<i>Wayne/Scott Fetzer Company d/b/a Blue Angel Pumps</i>)	100%	Scott Fetzer	101 Production Drive	Harrison	OH	45030	X
Blue Chip Stamps, Inc.	100%	BCS Holdings LLC	301 E. Colorado Boulevard, Suite 300	Pasadena	CA	91101	X
Bluegrass Dialysis, LLC	17.95%	DaVita Healthcare	1500 James Simpson Jr Way	Covington	KY	41011	X
BMCM LLC		Benjamin Moore	300 E Baltimore Pike	Media	PA	19063	X
BMW of Lincoln (<i>d/b/a for Husker Auto Group, LLC</i>)	96%	Berkshire Hathaway Automotive	6701 Telluride Drive	Lincoln	NE	68521	X
BN Leasing Corporation	100%	BNSF Railway	4200 Deen Road	Fort Worth	TX	76106	X
BN Manitoba, Ltd.		BNSF Railway	963 Lindsay St	Winnipeg	Manitoba, Canada	R3N 1X6	X
BNJ Company LLC		NetJets	4111 Bridgeway Ave	Columbus	NJ	43219-1882	X
BNJ NetJets, Inc.	100%	NetJets	4111 Bridgeway Ave	Columbus	NJ	43219-1882	X
BNJ Sales Company LLC		NetJets		Granby	CT		X
BNRR Holdings		BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
BNSF British Columbia, Ltd.		BNSF Railway					X
BNSF Communications, Inc.	100%	BNSF Railway	2500 Lou Menk Dr	Fort Worth	TX	76131	X
BNSF de Mexico SA de CV		BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
BNSF Equipment Acquisition Company, LLC	100%	BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
BNSF Foundation	N/A	BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
BNSF LLC		BNSF Railway					X
BNSF Logistics Canada, Inc.	100%	BNSF Railway	909 - 701 Evans Avenue	Toronto	Ontario, Canada	M9C 1A3	X
BNSF Logistics GmbH	100%	BNSF Railway	Hoheluftchaussee 151	Hamburg Hoheluft-West	Germany	20253	X
BNSF Logistics International, Inc.	100%	BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X

BERKSHIRE HATHAWAY INC. (10% and greater)

BNSF Logistics, LLC	100%	BNSF Railway	4700 S. Thompson	Springdale	AR	72764	X
BNSF Manitoba, Inc.		BNSF Railway	104 Dominion Street	Emerson	Manitoba, Canada	R0A 0L0	X
BNSF Properties		BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
BNSF Railway Company	100%	BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
BNSF Railway International Services, Inc.	100%	BNSF Railway	Rm 2903, Shanghai Times Sq., No. 93, Middle Huaihai Rd.	Shanghai	China	200021	X
BNSF Spectrum, Inc.	100%	BNSF Railway	P.O. Box 961101	Fort Worth	TX	76161	X
Boat America Corporation	100%	GEICO	880 South Pickett Street	Alexandria	VA	22304	X
Boat Owners Association of the United States	100%	GEICO	880 South Pickett Street	Alexandria	VA	22304	X
Boat U.S. Foundation		National Indemnity	880 South Pickett Street	Alexandria	VA	22304	X
Boat/U.S. Inc.	100%	GEICO	880 South Pickett Street	Alexandria	VA	22304	X
Boca Foods Company	26.86%	Kraft Heinz	910 Mayer Ave., Suite 1360	Madison	WI	53704	X
Bohama Dialysis, LLC	17.95%	DaVita Healthcare	2000 E 16th Ave	Denver	CO	80206	X
Bonfimed-Clinica de Diagnostico do Bonfim Unipessoal, Lda	17.95%	DaVita Healthcare	Av. Fernão de Magalhães, Nº. 442, 1º. Esq.	Porto	Portugal	4349-008	X
Boot Royalty Company	100%	Justin Brands	103 Foulk Rd. #202	Wilmington	DE	19803	X
Boot Royalty Company, L.P.	100%	Justin Brands	610 W. Daggett Avenue	Fort Worth	TX	76104	X
Borrego Dialysis, LLC	17.95%	DaVita Healthcare	10475 Harrison Avenue	Harrison	OH	45030	X
Borrego Holdings Limited Partnership	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X
Borrego Holdings, Inc.	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X
Borsheim Jewelry Company, Inc.	92.86%	Berkshire Hathaway	120 Regency Parkway	Omaha	NE	68114	X
Bottle Dialysis, LLC	17.95%	DaVita Healthcare	1405 S Douglas Blvd, Suite D	Midwest City	OK	73130	X
Bouficha Textile S.A.	99.91%	Fruit of the Loom	BP 40 Rte DE SOUSSE Z.I. GP1	Bouficha	Tunisia	4010	X
BPA Technologies Pvt. Ltd.	12.07%	Moody's	Metro - I, 28, 30 Kodambakkam High Road	Chennai	Tamilnadu, India		X
BPA Technologies, Inc.	12.07%	Moody's	7041 Koll Center Pkwy, Ste 235	Pleasanton	CA	94566	X
BR Agency, Inc.	100%	Clayton Homes	P.O. Box 390	Addison	AL	35540	X

BERKSHIRE HATHAWAY INC. (10% and greater)

BR International C.V.	100%	Brooks Sports		Hamilton	Bermuda		X
Brainy Toys, Inc.	100%	Mindware Corp	520 Dansbury Dr	Waterloo	Ontario Canada	N2K 4K8	X
Brantley Dialysis, LLC	17.95%	DaVita Healthcare	12249 Rojas Drive	El Paso	TX	79928	X
Brewerytown Apartments, LLC	99%	Affordable Housing	615 Fitzwater Street	Philadelphia	PA	19147	X
Bridges Dialysis, LLC	17.95%	DaVita Healthcare	3124 E State Blvd Ste 5b	Fort Wayne	IN	46805	X
Brigantine Beachcomber	100%	BH Media	3129 Fire Road, Suite 2	Egg Harbor Township	NJ	08234	X
Bright Dialysis, LLC	17.95%	DaVita Healthcare	1801 S 23rd Street	Fort Pierce	FL	34950	X
Brighton Dialysis Center, LLC	17.95%	DaVita Healthcare	315 W North Street # C	Brighton	MI	48116	X
Brilliant National Services, Inc.	100%	National Indemnity	120 White Plains Road	Tarrytown	NY	10591-5526	X
Bristol Herald Courier	100%	BH Media	320 Morrison Blvd.	Bristol	VA	24201	X
British Aviation Insurance Group (Technical Services) Limited	100%	National Indemnity	Fitzwilliam House, 10 St. Mary Axe	London	England	EC3A 8EQ	
British Aviation Insurance Group (Underwriting Services) Limited	100%	National Indemnity	Fitzwilliam House, 10 St. Mary Axe	London	England	EC3A 8EQ	
British Insurance Company of Cayman	100%	General Re	1415 Foulk Road, Suite 205	Wilmington	DE	19803	X
Brock Grain Systems (d/b/a for CTB, Inc.)	100%	CTB, Inc.	1750 West State Road 28	Franfort	IN	46041	X
Brock Industrial Systems (d/b/a for CTB, Inc.)	100%	CTB, Inc.	611 North Higbee Street	Milford	IN	46542	X
Broken Arrow Ledger	100%	BH Media	524 S. Main Street	Broken Arrow	OK	74012	X
Broker Markets Agency, Inc.		General Re	695 E. Main Street	Stamford	CT	06901	X
Brook Dialysis, LLC	17.95%	DaVita Healthcare	4475 Regency Pl, Units 102-103	White Plains	MD	20695	X
Brook Sports (Singapore) Pte. Ltd.	100%	Brooks Sports		Singapore	Singapore		X
Brooks Running S.L.U.	100%	Brooks Sports		Madrid	Spain		X
Brooks Sports B.V.	100%	Brooks Sports		Amsterdam	Netherlands		X
Brooks Sports GmbH	100%	Brooks Sports	Martin-Luther-King Weg 22	Münster, North Rhine–Westphalia	Germany	D-48155	X
Brooks Sports K.K.	100%	Brooks Sports	No. 1 Arai-Machi, Kurume	Fukuoka	Japan	830-91	X
Brooks Sports Limited	100%	Brooks Sports	135 Matheson Blvd. West, Ste 201	Mississauga	Ontario, Canada	L5R 3L1	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Brooks Sports LLC	100%	Brooks Sports	3400 Stone Way North, 5th Fl.	Seattle	WA	98103	X
Brooks Sports S.A.R.L.		Brooks Sports		Champcueil	Mennecey (Canton)France		X
Brooks Sports S.R.L.		Brooks Sports		Pisa	Italy		X
Brooks Sports, Inc.	100%	Brooks Sports	3400 Stone Way North, 5th Fl.	Seattle	WA	98103	X
Brookwood Insurance Company	100%	OBH, Inc.	9290 W Dodge Rd., Suite 300	Omaha	NE	68114	X
Brownsville Kidney Center, Ltd.	17.95%	DaVita Healthcare	2945 Central Blvd Ste A	Brownsville	TX	78520	X
Brownwood Dialysis, LLC	17.95%	DaVita Healthcare	5542 Norbeck Road	Rockville	MD	20853	X
Bruno Dialysis, LLC	17.95%	DaVita Healthcare	972 W Town and Country Rd	Orange	CA	92868	X
Bryan College Station Media Company, Inc.	100%	BH Media	350 N Saint Paul St Ste 2900	Dallas	TX	77802	X
Buffalo Newspress Inc.		Buffalo News	One News Plaza	Buffalo	NY	14203	X
Buford Dialysis, LLC	17.95%	DaVita Healthcare	601 Hawaii Street	El Segundo	CA	90245	X
Buildcost Software Ltd.		MiTek	508 Wairakei Road	Christchurch	New Zealand		X
BuilderMT, Inc.	100%	MiTek	1746 Cole Blvd. Suite 225	Lakewood	CO	80401	X
Builders Supply of Wisconsin (d/b/a for L&W Supply Corporation)	29.95%	USG	215 N. Henry Street P.O. Box 8107	Green Bay	WI	54308-8107	X
Building Software Services Ltd.		MiTek	4 Milton Terrace Seapoint Road	Bray, Co. Wicklow, NA	Ireland		X
Building Specialties (d/b/a for L&W Supply Corporation)	29.95%	USG	14980 Northeast 90th Street	Redmond	WA	98052-3526	X
BuildSoft Pty Ltd.	100%	MiTek	24 Oxley St	Campbelltown	Australia	NSW 2560	X
Bulfinch Dialysis, LLC	17.95%	DaVita Healthcare	1065 E Franklin St	Hartwell	GA	30643	X
Bullards Dialysis, LLC	17.95%	DaVita Healthcare	3311 Coach Lane, Suite C	Cameron Park	CA	95682	X
Bulldogger-GMC, Limited Partnership	99.99%	National Indemnity	398060 W 2200 Rd	Bartlesville	OK	74006	X
Burlington Northern (Manitoba) Limited	100%	BNSF Railway	963 Lindsay	Winnipeg	Manitoba Canada	R3N 1X6	X
Burlington Northern International Services, Inc.		BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
Burlington Northern Leasing Corp.		BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
Burlington Northern Railroad Holdings, Inc.	100%	BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Burlington Northern Santa Fe Insurance Company, Ltd.	100%	BNSF Railway			Bermuda		X
Burlington Northern Santa Fe Properties, L.L.C.	100%	BNSF Railway	1209 N. Orange St.	Wilmington	DE	19801	X
Burlington Northern Santa Fe RR Co. (d/b/a for Burlington Northern)		BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
Burlington Northern Santa Fe, LLC	100%	BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
Burney Dialysis, LLC	17.95%	DaVita Healthcare	401 Northside Drive, Suite A	Valdosta	GA	31602	X
Bushwick Metals LLC	100%	Marmon	560 N. Washington Avenue	Bridgeport	CT	06604	X
Business Equipment Capital Corporation	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Business Equipment Financing Corporation	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Business Wire Asia-Pacific Pty. Limited	100%	Business Wire	77 Gerard Street	Alexandria	Australia	NSW 2015	X
Business Wire Canada Limited	100%	Business Wire	144 Front Street W., Suite 340	Toronto	Ontario Canada	M5J 2L7	X
Business Wire China Ltd.	100%	Business Wire	Rm 1601, Wilson House 19-27, Wyndham St. Central	Hong Kong	Hong Kong		X
Business Wire Europe Limited	100%	Business Wire	24 Martin Lane, 1st Floor	London	England	EC4R 0DR	X
Business Wire France SARL	100%	Business Wire	10 Rue de Vezelay	Paris	France	75008	X
Business Wire Japan KK	100%	Business Wire	Kobayashi Building, 5th Floor, 4-2-10 Kudan Minami, Chiyoda-Ku	Tokyo	Japan	102-0074	X
Business Wire, Inc.	100%	Business Wire	44 Montgomery Street, 39th Floor	San Francisco	CA	94104	X
Busy Plus, S.L.		Fruit of the Loom	Directs, 37, Villarejo Salvanés	Madrid	Spain	28590	X
Butano Dialysis, LLC	17.95%	DaVita Healthcare	440 N 11th Avenue	Hanford	CA	93230	X
BVLC, Inc.	11.4%	Phillips 66	600 N Dairy Ashford Rd	Houston	TX	77079	X
BWNV Motors, LLC	93%	BH Auto	999 Serramonte Blvd.	Colma	CA	94014	X
BWVT Motors, Inc.	100%	BH Auto	1321 Minters Chapel Rd	Grapevine	TX	76051	X
C & A Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	596 E. Highland Road	Macedonia	OH	44056	X
C&R Insurance Services, Inc.	100%	Medical Protective	200 W. Germantown Pike Bldg. B	Plymouth Meeting	PA	19462	X
C&R Legal Insurance Agency, LLC	100%	Medical Protective	200 W. Germantown Pike Bldg. B	Plymouth Meeting	PA	19462	X
C. S. Land, Inc.	11.4%	Phillips 66	600 N Dairy Ashford Rd	Houston	TX	77079	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Caballo Dialysis, LLC	17.95%	DaVita Healthcare	17721 KY Route 122	Hi Hat	KY	41636	X
Cable USA LLC	100%	Marmon	2584 South Horseshoe Drive	Naples	FL	34104-6131	X
Caddo Dialysis, LLC	17.95%	DaVita Healthcare	329 Floyd Drive	Carrollton	KY	41008	X
Cairo Food Industries, S.A.E.	26.86%	Kraft Heinz	No. 36, 2nd Industrial Zone	6th October City, Cairo	Egypt		X
Calaveras Dialysis, LLC	17.95%	DaVita Healthcare	1401 N 24th Street, Ste 2	Phoenix	AZ	85008	X
Calcasieu Properties, L.L.C.	11.4%	Phillips 66	131 State Street	Lake Charles	LA	70605	X
Calgary North Decorating		Benjamin Moore	920 Northmount Drive, NW	Calgary	Alberta Canada	T2L 0A9	X
California Insurance Company	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
CALPLY (d/b/a for L&W Supply Corporation)	29.95%	USG	8535 E. Florence Avenue, Suite 100	Downey	CA	90240	X
Cal-Wal Gypsum Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	9770 San Fernando Road	Sun Valley	CA	91352	X
Cambria Properties, L.P.	99.99%	National Indemnity	102 Ralph Street	Cambria	IL	62915	X
Camelback Ford (d/b/a for MCVT Motors, LLC)	93%	BH Auto	1350 E. Camelback Road	Phoenix	AZ	85014	X
Camelback Hyundai (d/b/a for CHVT Motors, LLC)	93%	BH Auto	1500 E. Camelback Road	Phoenix	AZ	85014	X
Camelback Kia (d/b/a for CHVT Motors, LLC)	93%	BH Auto	1450 E. Camelback Road	Phoenix	AZ	85014	X
Camelback Lincoln (d/b/a for MCVT Motors, LLC)	93%	BH Auto	1400 E. Camelback Road	Phoenix	AZ	85014	X
Camelback Mazda (d/b/a for Showcase Automotive, LLC)	93%	BH Auto	1521 E. Camelback Road	Phoenix	AZ	85014	X
Camelback Scion		BH Auto	1550 E. Camelback Road	Phoenix	AZ	85014	X
Camelback Subaru (d/b/a for Showcase Automotive, LLC)	93%	BH Auto	1521 E. Camelback Road	Phoenix	AZ	85014	X
Camelback Toyota (d/b/a for CTVT Motors, LLC)	75%	BH Auto	1550 E. Camelback Road	Phoenix	AZ	85014	X
Camelback Volkswagen (d/b/a for Showcase Automotive, LLC)	93%	BH Auto	1499 E. Camelback Road	Phoenix	AZ	85014	X
Camino Dialysis, LLC	17.95%	DaVita Healthcare	28160 W Northwest Highway	Lake Barrington	IL	60010	X
Camp Manufacturing Company	100%	Fruit of the Loom	One Fruit of the Loom Drive	Bowling Green	KY	42103	X
Campbell Hausfeld, LLC	100%	Scott Fetzer	100 Production Drive	Harrison	OH	45030	X
Campton Dialysis, LLC	17.95%	DaVita Healthcare	1310 Macdade Blvd	Woodlyn	PA	19094	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Canadian Aviation Insurance Managers Ltd.		General Re	Street, Suite 2450	Toronto	Ontario Canada	M5J 2J1	X
Canadian Securities Institute	12.07%	Moody's	200 Wellington St. West, 15th Floor	Toronto	Ontario, Canada	M5V 3C7	X
Cannon Dialysis, LLC	17.95%	DaVita Healthcare			PA		X
Cannon Equipment LLC	100%	Marmon	324 Washington St W	Cannon Falls	MN	55009	X
Canyon Springs Dialysis, LLC	17.95%	DaVita Healthcare	22555 Alessandro Boulevard	Moreno Valley	CA	92553	X
Capelville Dialysis, LLC	17.95%	DaVita Healthcare	7008 E Shelby Drive	Memphis	TN	38125	X
Capes Dialysis, LLC	17.95%	DaVita Healthcare	2 Lile Court # 102a	Little Rock	AR	72205	X
Capital Dialysis Partnership	17.95%	DaVita Healthcare	555 Park Street, Suite 230	St. Paul	MN	55103	X
Capitol Building Materials (d/b/a for L&W Supply Corporation)	29.95%	USG	376 East 400 South #4	Springville	Utah	84663	X
Capitol Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	1150 McKinley Avenue	Columbus	OH	43222	X
Capri Sun, Inc.	26.86%	Kraft Heinz	2494 South Orange Avenue	Fresno	CA	93725-1328	X
Cardmember Financial Services Limited	14.65%	American Express	41/43 La Motte Street	St. Helier, Jersey	Channel Islands	JE2 4SZ	X
Carefree of Colorado (d/b/a for Carefree/Scott Fetzer Company)	100%	Scott Fetzer	2145 W. 6th Avenue	Broomfield	CO	80020	X
Carefree/Scott Fetzer Company	100%	Scott Fetzer	2145 W. 6th Avenue	Broomfield	CO	80020	X
Carlsbad Dialysis, LLC	17.95%	DaVita Healthcare	2319 Osborne Road	Carlsbad	NM	88220	X
Carlton Bridge Limited	26.86%	Kraft Heinz	South Building Hayes Park	Hayes, Middlesex	England	UB4 8AL	X
Carroll County Dialysis Facility Limited Partnership	17.95%	DaVita Healthcare	412 Malcolm Drive, Suite 310	Westminster	MD	21157	X
Carroll County Dialysis Facility, Inc.	17.95%	DaVita Healthcare	21250 Hawthorne Blvd, Ste 800	Torrance	CA	90503	X
Cascade Gypsum & Building Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	P.O. Box 206	Bend	OR	97709	X
Cascades Dialysis, LLC	17.95%	DaVita Healthcare	4427 Fm 1960 Road W # D	Houston	TX	77068	X
Castigliano Vermögensverwaltungs GmbH	100%	Johns Manville	Max-Fischer str. 11	Bobingen	Bavaria	86399	X
Catalunya Apartments LLC	99.99%	Affordable Housing	5180 E 22nd St	Tucson	AZ	85719	X
Catamaran Media Company, L.L.C.	50%	BH Media	3129 Fire Road, Suite 2	Egg Harbor Township	NJ	08234	X
Catequip S.A.	100%	Marmon	19 Rue de la Paix	Bouilly	France	10320	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Cavalier Home Builders, LLC	100%	Clayton Homes	47 Wilson Blvd.	Addison	AL	35540	X
Cavalier Homes, Inc.	100%	Clayton Homes	32 Wilson Blvd. 100	Addison	AL	35540	X
Cavendish Holdings, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Caverns Dialysis, LLC	17.95%	DaVita Healthcare	15-00 Pollitt Drive	Fair Lawn	NJ	07410	X
CAVT, LLC	78%	BH Auto	18707 Studebaker Rd.	Cerritos	CA	90703	X
CBL Trading, LLC	100%	Charter Brokerage	22762 Westheimer Parkway, Suite 530	Katy	TX	77450	X
CCC Lonestar LLC	100%	Marmon					X
Cedar Dialysis, LLC	17.95%	DaVita Healthcare	479 Port View Dr., Suite B21	Harrisburg	PA	17111	X
Ceiling & Building Specialties (d/b/a for L&W Supply Corporation)	29.95%	USG	201 Messner Drive	Wheeling	IL	60090	X
Cellulogic Ltd.	100%	CTB International	P.O. Box 8898	Natanya South	Israel	42505	X
Cen-Cal Wallboard Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	1300 S. River Road, Suite 100	West Sacramento	CA	95691	X
Centennial LV, LLC	17.95%	DaVita Healthcare	8775 Deer Springs Way	Las Vegas	NV	89149	X
Centerline AHP Housing LLC	100%	National Indemnity		Woodbury	NJ		X
Central California Traction Company	33.33%	BNSF Railway	2201 W. Washington St. # 12	Stockton	CA	95203	X
Central Carolina Dialysis Centers, LLC	17.95%	DaVita Healthcare	601 Hawaii Street	El Segundo	CA	90245	X
Central Georgia Dialysis, LLC	17.95%	DaVita Healthcare	165 Emery Highway	Macon	GA	31217	X
Central Iowa Dialysis Partners, LLC	17.95%	DaVita Healthcare	1301 Pennsylvania Ave, Ste 208	Des Moines	IA	50316	X
Central Kentucky Dialysis Centers, LLC	17.95%	DaVita Healthcare	210 W John Fitch Avenue	Bardstown	KY	40004	X
Central Nebraska Publications, Inc.	100%	BH Media	1314 Douglas St, Ste 1500	Omaha	NE	68102	X
Central States Indemnity Co. of Omaha	100%	Berkshire Hathaway	1212 N. 96th Street	Omaha	NE	68114	X
Central States of Omaha Companies, Inc.	88%	Berkshire Hathaway	1212 N. 96th Street	Omaha	NE	68114	X
Centralia Properties, L.P.	99.99%	National Indemnity	104 Fairway Drive	Centralia	IL	62801	X
Centre de Décoration Le Corbusier - Boisbriand Inc.		Benjamin Moore	2254 rue D'annemasse	Boisbriand	Quebec Canada	J7H 1S3	X
Centre de Décoration Le Corbusier - St Eustache Inc.		Benjamin Moore	279 rue Hector-Lanthier	St-Eustache	Quebec Canada	J7P 5R1	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Centre de Peinture André Morin Inc.		Benjamin Moore	850 Pierre Bertrand, App. 200	Ville Vanier	Quebec Canada	G1M 3K8	X
Centurion Finance, Ltd.	14.65%	American Express	600 Great South Road	Greenlane, Auckland	New Zealand	1051	X
Cerito Dialysis Partners, LLC	17.95%	DaVita Healthcare	7990 Trinity Road, Suite 101	Cordova	TN	38018	X
Cerritos Nissan (<i>d/b/a for CAVT, LLC</i>)	78%	BH Auto	18707 Studebaker Rd.	Cerritos	CA	90703	X
Cerro E.M.S. Limited		Marmon	Liverpool Street	Birmingham	UK	B9 4DS	X
Cerro Extruded Metals Limited		Marmon	340 Deansgate	Manchester, Lancashire	UK	M3 4LY	X
Cerro Fabricated Products, LLC	100%	Marmon	300 Triangle Drive	Weyers Cave	VA	24486	X
Cerro Flow Products LLC	100%	Marmon	P.O. Box 66800	St. Louis	MO	63166	X
Cerro MB Limited		Marmon	2-20 Booth Drive, Park Farm Estate	Wellingborough, Northamptonshire	UK	NN8 6GR	X
Cerro Precision Limited	100%	Marmon	Millmarsh Lane	Enfield, Middlesex	UK	EN3 7XE	X
Cerro Trading Company LLC	100%	Marmon	225 West Washington Street	Chicago	IL	60606	X
Cerro Wire LLC	100%	Marmon	1099 Thompson Road S.E.	Hartselle	AL	35640	X
CGC Inc.	29.95%	USG	350 Burnhamthorpe Road West, 5th Floor	Mississauga	Ontario Canada	L5B 3J1	X
Chadron Dialysis, LLC	17.95%	DaVita Healthcare	14512 Lee Road	Humble	TX	77396	X
Changzhou Zhongxin Tianma Fiber Glass Products Co., Ltd.	25%	Johns Manville	#1 Changcheng Road	Changzhou	Jiangsu Province, China		X
Channel Dialysis, LLC	17.95%	DaVita Healthcare	78030 Wildcat Drive	Palm Desert	CA	92211	X
Charter Brokerage Canada Corporation		Charter Brokerage	140-4th Avenue SW, Suite 2610	Calgary	Alberta Canada	T2P 3N3	X
Charter Brokerage Holdings Corp.		Charter Brokerage	383 Main Avenue, Suite 506	Norwalk	CT	06851	X
Charter Brokerage Holdings, LLC		Charter Brokerage	383 Main Avenue, Suite 506	Norwalk	CT	06851	X
Charter Brokerage LLC		Charter Brokerage	22762 Westheimer Parkway, Suite 530	Katy	TX	77450	X
Chatwell, Inc.	100%	Clayton Homes	1105 N Market St Ste 1300	Wilmington	DE	19899	X
Checks-on-line, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Chemtool (UK) Ltd.	100%	Lubrizol	Unit 802 Centre 500, Lowfield Drive, Wolstanton	Newcastle, Staffordshire	UK	ST5 0UU	X
Chemtool BVBA	100%	Lubrizol	Leuvensesteenweg 354	Boortmeerbeek	Belgium	3190	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Chemtool de Mexico, S.A. de C.V.	100%	Lubrizol	Oak Ave # 535-A, San Pedro Garza Garcia	Monterey Nuevo Leon	Mexico		X
Chemtool do Brasil Produtos Quimicos Ltda.	100%	Lubrizol	Rua Augusto Tonin 360, Industrial District	Indaiatuba São Paulo	Brazil	13347-396	X
Chemtool Incorporated	100%	Lubrizol	Corporate Technology Center, 801 West Rockton Road	Rockton	IL	61072	X
Chesapeake Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	301 Serendipity Drive P.O. Box 956	Millersville	MD	21108	X
Chestnut Hill Paint & Decorating, Inc.		Benjamin Moore	8002 Germantown Avenue	Philadelphia	PA	19118	X
Chicago Heights Dialysis, LLC	17.95%	DaVita Healthcare	177B W Joe Orr Road	Chicago Heights	IL	60411	X
Chipeta Dialysis, LLC	17.95%	DaVita Healthcare	4141 Katella Avenue	Los Alamitos	CA	90720	X
Chippewa Shoe Company	100%	Justin Brands	P.O. Box 548	Fort Worth	TX	76101	
Chore-Time Brock B.V.		CTB International	Piet Mondrian Street 3	Deurne	Netherlands	DJ 5753	X
Chore-Time Brock Holding B.V.	100%	CTB International	Industrieterrein 34, P.O. Box 7131	5980 AC Panningen	Netherlands		X
Chore-Time Brock International (d/b/a for CTB, Inc.)	100%	CTB, Inc.	407 North Main Street	Milford	IN	46542	X
Chore-Time Brock Ltda.	100%	CTB International	Rua Senador Souza Naves 1044, Suite 201, Centro, Ed. Paranoa	Londrina	Brazil	86010-160	
Chore-Time Egg Production Systems (d/b/a for CTB, Inc.)	100%	CTB, Inc.	401 N. Main Street	Milford	IN	46542	X
Chore-Time Europe B.V.	100%	CTB International	Kortijzer 12	Asten	Netherlands	5721 VE	X
Chore-Time Europe Sp. Zoo	100%	CTB International	ul. Poznańska 1	Strykowo/ k.Steszewa	Poland	62-060	X
Chore-Time Poultry Production Systems (d/b/a for CTB, Inc.)	100%	CTB, Inc.	410 N. Higbee Street	Milford	IN	46542	X
CHP Insurance Agency, LLC		National Indemnity	2077 Roosevelt Ave	Springfield	MA	01104	X
Christian County Rural Housing, LP	98.99%	Affordable Housing		Ozark	MO		X
Church Point Housing, LP	99.99%	Affordable Housing	109 East Darbonne St	Church Point	LA	70525	X
Churchill Dialysis, LLC	17.95%	DaVita Healthcare	894 FM 3168	Raymondville	TX	78580	X
Churny Company, Inc.	26.86%	Kraft Heinz	1 Kraft Court	Glenview	IL	60025	X
CHVT Motors, LLC	93%	BH Auto	2223 W Camelback Road	Phoenix	AZ	85015	X
Cimarron Dialysis, LLC	17.95%	DaVita Healthcare	7335 Yankee Road	Liberty Township	OH	45044	X
Cinco Rios Dialysis, LLC	17.95%	DaVita Healthcare	1702 Illinois Avenue	Perris	CA	92571	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Cine, LP	99.99%	Affordable Housing		Linton	IN		X
CITS American Express Air Services Ltd.	14.65%	American Express	Rm 2101, China World Tower 1, No. 1 Jian Guo Men Wai Ave.	Beijing	China		X
CITS American Express Southern Air Services Ltd.	14.65%	American Express	Room 455 Shanghai Center, 1376 Nanjing Road West	Shanghai	China		X
CITS American Express Southern China Air Services Limited	14.65%	American Express	8th Floor, Building A, Winterless Center, No. 1 Xi Da Wang Lu, Chaoyang Dist	Beijing	China	100026	X
CITS American Express Travel Services Ltd.	14.65%	American Express	Unit 01-06, 8/F, Suite A, Wentelai C	Beijing	China		X
CJE II, Inc.	100%	TTI, Inc.	502 East John Street	Carson City	NV	89706	X
C-K Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	8200 Henderson Road P.O. Box 481808	Charlotte	NC	28269	X
Claims Resolution Management Corporation		Johns Manville	3110 Fairview Park Drive, Suite 200	Falls Church	VA	22042	X
Claims Services, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	X
Clarinda Herald-Journal (d/b/a for Midlands Newspapers, Inc.)	100%	BH Media	114 W. Main St., Suite B	Clarinda	IA	51632	X
Clark Dialysis, LLC	17.95%	DaVita Healthcare	1127 West Street	Annapolis	MD	21401	X
Claussen Pickle Company	26.86%	Kraft Heinz	1300 Claussen Drive	Woodstock	IL	60098	X
Clayton Commercial Buildings, Inc.	100%	Clayton Homes	P.O. Box 4098	Maryville	TN	37802	X
Clayton Dialysis, LLC	17.95%	DaVita Healthcare	642 Lincoln Square	Arlington	TX	76011	X
Clayton Education Corp.	100%	Clayton Homes	5000 Clayton Rd	Maryville	TN	37804	X
Clayton Homes, Inc.	100%	Clayton Homes	P.O. Box 8985	Wilmington	DE	19899	X
CLDC Alton, LP	99.99%	Affordable Housing	2010 Kessler Parkway	Dallas	TX	75208	X
Clear Path Recycling, LLC	65.84%	Shaw Industries	5925 Carnegie Blvd., Ste. 500	Charlotte	NC	28209	X
Clearee Dialysis, LLC	17.95%	DaVita Healthcare	720 N I Street	Madera	CA	93637	X
Clearwater Ltd.	11.4%	Phillips 66					X
Cleburne Dialysis, LLC	17.95%	DaVita Healthcare	4800 Marlboro Pike	Capitol Heights	MD	20743	X
Clifton Dialysis, LLC	17.95%	DaVita Healthcare	16750 Highway 3	Webster	TX	77598	X
Clinica Central do Bonfim S.A.	17.95%	DaVita Healthcare	Av. Fernão de Magalhães, Nº. 442, 1º. Esq.	Porto	Portugal	4349-008	X
Clinique de la Couleur Inc.		Benjamin Moore	8985, 1ère Avenue	Charlesbourg	Quebec Canada	G1G 4C5	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Clinton Township Dialysis, LLC	17.95%	DaVita Healthcare	15918 19 Mile Road, Suite 110	Clinton Township	MI	48038	X
Clover Dialysis, LLC	17.95%	DaVita Healthcare	275 Di Salvo Avenue	San Jose	CA	95128	X
Clyfee Dialysis, LLC	17.95%	DaVita Healthcare	1228 E Rusholme St, Ste 1000	Davenport	IA	52803	X
CM1, LLC	100%	Clayton Homes	500 Alcoa Trail	Maryville	TN	37804	X
CMH Capital, Inc.	100%	Clayton Homes	1110 N. Market St., Ste. 1300	Wilmington	DE	19801	X
CMH Hodgenville, Inc.	100%	Clayton Homes	P.O. Box 4098	Maryville	TN	37802	X
CMH Homes, Inc.	100%	Clayton Homes	P.O. Box 4098	Maryville	TN	37802	X
CMH Insurance Agency, Inc.		Clayton Homes	P.O. Box 4098	Maryville	TN	37802	
CMH Manufacturing West, Inc.	100%	Clayton Homes	2700 Karsten Ct SE	Albuquerque	NM	87102-5082	X
CMH Manufacturing, Inc.	100%	Clayton Homes	P.O. Box 4098	Maryville	TN	37802	X
CMH of KY, Inc.	100%	Clayton Homes	P.O. Box 4098	Maryville	TN	37802	X
CMH Parks, Inc.	100%	Clayton Homes	5000 Clayton Road	Maryville	TN	37804	X
CMH Services, Inc.	100%	Clayton Homes	P.O. Box 4098	Maryville	TN	37802	X
CMH Set and Finish, Inc.	100%	Clayton Homes	123 East Marcy	Santa Fe	NM	87501	X
CMH Transport, Inc.	100%	Clayton Homes	1550 Ft Campbell Blvd	Clarksville	TN	37041	X
CMPC Transition LLC	100%	Marmon	181 Madison Street	Chicago	IL	60602-4510	X
Coachmen RV Company		Forest River, Inc.	423 North Main	Middlebury	IN	46540	X
Coast Dialysis, LLC	17.95%	DaVita Healthcare	1964 Ashley River Rd, Suite D-2	Charleston	SC	29407	X
Cobbles Dialysis, LLC	17.95%	DaVita Healthcare	3541 W 5th Street	Oxnard	CA	93030	X
Colleton Dialysis, LLC	17.95%	DaVita Healthcare	604 Kansas Avenue	Clinton	MO	64735	X
Cologne Holding Company of America, Inc.		General Re	695 E. Main Street	Stamford	CT	06901	X
Cologne Life Underwriting Management Company		General Re	695 E. Main Street	Stamford	CT	06901	X
Colorado Springs Health Partners	17.95%	DaVita Healthcare	2 South Cascade Ave., Ste 140	Colorado Springs	CO	80903	X
Colourspec Paint & Decorating Centre Ltd		Benjamin Moore	12020 149th St NW	Edmonton	Alberta Canada	T5V1P2	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Colt Commercial		TaeguTec	Suite 505-A Padilla De Los, Reyes Bldg., 232 Juan Luna St.	Binondo, Manila	Philippines		X
Columbia Insurance Company	100%	Berkshire Hathaway	3024 Harney Street	Omaha	NE	68131	X
Columbus-RNA-DaVita, LLC	17.95%	DaVita Healthcare	415 E Mound Street	Columbus	OH	43215	X
Combined Claims Services, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	
Comercializadora Heinz de Panama	26.86%	Kraft Heinz	AV SAMUEL LEWIS Y CALLE 58SCAOBARRIOSCATORRE	Panama City	Panama		X
Commerce Township Dialysis Center, LLC	17.95%	DaVita Healthcare	120 W Commerce Road	Commerce Township	MI	48382	X
Commercial Casualty Insurance Company	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
Commercial General Indemnity, Inc.	100%	Applied Underwriters	201 Merchant St., Suite 2400	Honolulu	HI	96813	X
Compania Pesquera Estella del Peru, S.A. (46.9% thru HJH Overseas, LLC)	12.6%	Kraft Heinz			Peru		
Compania Presqu Cumana, C.A.	26.86%	Kraft Heinz			Venezuela		
Complementary Coatings Corp.	100%	Benjamin Moore	101 Paragon Drive	Montvale	NJ	07645-1727	X
Comtran Cable LLC	100%	Marmon	330A Turner Street	Attleboro	MA	02703	X
Conchasa Dialysis, LLC	17.95%	DaVita Healthcare	2000 16th Street	Denver	CO	80202	X
Conconully Dialysis, LLC	17.95%	DaVita Healthcare	3 Rossi Circle, Suite A	Salinas	CA	93907	X
Confecciones Chalchuapa, S.A. de C.V.	100%	Garan	Zona Franca "10", Modulo 1 Final Barrio Santa Cruz	Chalchuapa Santa Ana	El Salvador, C.A.		X
Confecciones Cuscatlecas, S.A. de C.V.	100%	Garan	Export Salva Free Zone, km 24 Carretera a Santa Ana, Edif. 1 Lourdes	Colon	La Libertad El Salvador, C.A.		X
Confecciones Dos Caminos, D. De.R.L. de C.V.	100%	Fruit of the Loom		Cortez	Honduras		X
Confecciones Lagos S.A. de C.V.			Orozco Y Jimenez No 2418	Lagos De Moreno, Jalisco	Mexico	47470	X
Congress Lab S.r.l.	14.65%	American Express	Lamarmora, 36	Florence	Italy	50121	X
Conservation by Design Limited	100%	Larson Juhl	5 Singer Way, Woburn Road Industrial Estate	Kempston	Bedford UK	MK42 7AW	X
Consolidated Health Plans, Inc.	100%	National Indemnity	2077 Roosevelt Avenue	Springfield	MA	01104	X
Construction Software Center Europe AB	100%	MiTek	Lasarettsvägen 35, Skellefteå	Västerbotten	Sweden	931 41	X
Consumer Value Products, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	
Continental Dialysis Center of Springfield- Fairfax, Inc.	17.95%	DaVita Healthcare	8350A Traford Lane	Springfield	VA	22152	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Continental Dialysis Centers, Inc.	17.95%	DaVita Healthcare	46396 Benedict Dr, Ste 100	Sterling	VA	20164	X
Continental Divide Insurance Company	100%	National Indemnity	7730 E Belleview Ave	Englewood	CO	80111	X
Continental Indemnity Company	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
Controladora Fruit of the Loom S.A. de C.V.	100%	Fruit of the Loom	Av. Diagonal Patriotismo #1 - 4o.piso	Col. Hipodromo Condesa	Mexico	06170	X
Copal Business Consulting (Beijing) Co. Ltd.	12.07%	Moody's		Beijing	China		X
Copal Market Research Ltd.	12.07%	Moody's	4th Floor, Amod Building 19, Poudriere Street	Port Louis	Mauritius		X
Copal Partners (HK) Ltd.	12.07%	Moody's	13th Fl., Wyndham Place 40-44 Wyndham Street	Central Hong Kong	China		X
Copal Partners (US) Inc.	12.07%	Moody's	845 Third Avenue, 6th Floor	New York	NY	10022	X
Copal Partners Limited	12.07%	Moody's	33 Glasshouse Street, 4th Fl.	London	UK	W1B 5DG	X
Copal Partners UK Limited	12.07%	Moody's	1 Knightsbridge Green	London	UK	SW1X 7NE	X
Copal Research India Private Limited	12.07%	Moody's	6th Fl, Vatika Atrium, Sec 53	Gurgaon, Haryana	India	122002	X
Copal Research Ltd.	12.07%	Moody's	4th Floor, Amod Building 19, Poudriere Street	Port Louis	Mauritius		X
Cornelius Australia Pty Ltd.	100%	Marmon	260 Horsley Road	Milperra	Wales, Australia	2214	X
Cornelius Beverage Technologies Belgium NV	100%	Marmon	Pol. Ind. Riera del Fonollar, Sant Boi de Llobregat	Barcelona	Spain	08830	X
Cornelius Beverage Technologies Limited	100%	Marmon	Nuffield Way 39-41	Abingdon, Oxon	UK	OX14 1AE	X
Cornelius Deutschland GmbH	100%	Marmon	Carl-Leverkus-Straße 15	Langenfeld (Rheinland)	Germany	40764	X
Cornelius Hellas SA	100%	Marmon	Theomitoros 55	Alimos	Greece	174 55	X
Cornelius Italia S.r.l.	100%	Marmon	Via 2 Giugno 48	Merate Lecco	Italy	23807	X
Cornelius Latino Americana SA de CV	100%	Marmon	Rio Mixcoac #274 5th Floor	Benito Juarez	Mexico	C.P. 03240	X
Cornelius Manufacturing de Mexico SA de CV	100%	Marmon	Reynosa Ind. Park	Reynosa, Tamaulipas	Mexico	88780	X
Cornelius Osterreich Ges. mbH	100%	Marmon	Percostrasse 31/A5	Vienna	Austria	1220	X
Cornelius Pacific Ltd.	100%	Marmon	15th Floor, Hale Weal Industrial Building, 22-28 Tai Chung Road	Tsuen Wan	Hong Kong		X
Cornelius Renew, Inc.	100%	Marmon	1301 N. Main Street	Monmouth	IL	61462	X
Cornelius Retail Dispense (Finance) Limited	100%	Marmon	Bishop Meadow Road	Loughborough Leicestershire	UK	LE11 5TH	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Cornelius RUS LLC	100%	Marmon	Altufyevskoye Shosse 48 Building 2 Office 707	Moscow	Russia	127566	X
Cornelius Technology Centre India PVT Ltd.	100%	Marmon			India		X
Cornelius Tianjin Holdings LLC	100%	Marmon	No. 12 Xin Tai Road	Teda Tianjin	P.R. China	300457	X
Cornelius Ukraine LLC	100%	Marmon	102, Grekovskaya Str	Kharkiv	Ukraine	61010	X
Cornelius, Inc.	100%	Marmon	101 Broadway Street West	Osseo	MN	55369	X
Cornhusker Casualty Company	100%	National Indemnity	9290 West Dodge Rd., Ste 300	Omaha	NE	68114	X
CORT Business Services Corporation	100%	CORT	11250 Waples Mill Road	Fairfax	VA	22030	X
CORT Business Services UK, Ltd.	100%	CORT	28 Leatherhead Road	Chessington, Surrey	England		X
CORT Furniture and Rental	100%	CORT	P.O. Box 17401	Baltimore	MD	21297	X
CORT Furniture Rental Corporation	100%	CORT	11250 Waples Mill Road	Fairfax	VA	22030	X
Coulter's Mill Paint & Decorating Ltd.		Benjamin Moore	1450 Clarke Ave. W., Unit 27	Thornhill	ON	L4J 7R5	X
Country Ford Development Limited	26.86%	Kraft Heinz		Tsim Sha Tsui	Hong Kong		X
Court Dialysis, LLC	17.95%	DaVita Healthcare	1180 N Bridge Street	Chillicothe	OH	45601	X
Courtesy Dealership Property, Inc.	100%	BH Auto	8500 Shawnee Mission Pkwy	Shawnee Mission	KS	66201	X
Coverage Dynamics, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	
Cowell Dialysis, LLC	17.95%	DaVita Healthcare	3934 W 24th Street	Chicago	IL	60623	X
Coweta American	100%	BH Media	109 S. Broadway	Coweta	OK	74429	X
CPI Engineering Services, Inc.	100%	Lubrizol	2300 James Savage Road	Midland	MI	48642	X
Creative Identities Ltd.	100%	Marmon	Bishop Meadow Road	Loughborough Leicestershire	UK	LE11 5TH	X
Credco Finance, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Credco Receivables Corp.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Creek Dialysis, LLC	17.95%	DaVita Healthcare	4780 Corridor Place	Beltsville	MD	20705	X
Crest Cadillac II, LLC <i>d/b/a Crest Cadillac</i>	79%	BH Auto	2501 N Central Expressway	Plano	TX	75075	X
Crest Infiniti II, LLC <i>d/b/a Crest Infiniti</i>	79%	BH Auto	2501 N Central Expressway	Plano	TX	75075	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Crest Nissan (<i>d/b/a for NFVT Motors, LLC</i>)	81%	BH Auto	6600 State Highway 121	Frisco	TX	75034	X
Criterion Insurance Agency, Inc.	100%	GEICO	Corporate Tax Division, GEICO Plaza	Washington	DC	20081	X
Cross Creek de Honduras, S.A. de C.V.	100%	Fruit of the Loom		Choloma, Cortés	Honduras		
Cross Creek Holdings, Inc.		Russell Corporation	755 Lee Street	Alexander City	AL	36010	X
Crown Automotive, LLC	71%	BH Auto	255 W. Pershing Road	Decatur	IL	62526	X
Crown Motors, LLC	71%	BH Auto	165 W. Pershing Road	Decatur	IL	62526	X
Crown Nissan of Decatur		BH Auto	165 W. Pershing Road	Decatur	IL	62526	X
Crown Scion (<i>d/b/a for Crown Automotive, LLC</i>)	71%	BH Auto	255 W. Pershing Road	Decatur	IL	62526	X
Crown Toyota (<i>d/b/a for Crown Automotive, LLC</i>)	71%	BH Auto	255 W. Pershing Road	Decatur	IL	62526	X
Crystals Dialysis, LLC	17.95%	DaVita Healthcare	7223 Church St, Suite A14	Highland	CA	92346	X
CSI Global Education, US, Inc.	12.07%	Moody's					X
CSI Life Insurance Company	100%	Central States Indemnity Co.	1212 N. 96th Street	Omaha	NE	68114	X
CSI Processing, LLC	100%	Central States Indemnity Co.	1212 N. 96th Street	Omaha	NE	68114	X
CTB Credit Corp.	100%	CTB International	P.O. Box 2000	Milford	IN	46542	
CTB Global Holding B.V.	100%	CTB International		Amsterdam	Netherlands		X
CTB International Corp.	100%	CTB International	P.O. Box 2000	Milford	IN	46542	X
CTB Israel Holdings Ltd.		CTB International		Tel Aviv	Israel		X
CTB IW, Inc.	100%	CTB International	611 North Higbee Street	Milford	IN	46542	X
CTB Laake GmbH	100%	CTB International	Charlotte Road 57	Berlin	Germany	EN 10117	X
CTB Legacy Holding B.V.	100%	CTB International	200 Prins Bernhardplein	Amsterdam	Netherlands	1097JB	X
CTB M&L Holdings B.V.	100%	CTB International	200 Prins Bernhardplein	Amsterdam	Netherlands	1097JB	X
CTB Malaysia Sdn. Bhd.	100%	CTB International	No. 12 Jalan Anggerik Mokara 31/48 - Kota Kemuning Industrial Park	Shah Alam, Selangor	Malaysia	40150	X
CTB Midwest Inc.	100%	CTB International	611 North Higbee Street	Milford	IN	46542	X
CTB MN Investments Co., Inc.	100%	CTB International	P.O. Box 2000	Milford	IN	46542	X

BERKSHIRE HATHAWAY INC. (10% and greater)

CTB Verwaltungs GmbH	100%	CTB International	17258 Feldberger lakes	Mecklenburg-Western Pomerania	Germany		X
CTB, Inc.	100%	CTB International	611 North Higbee Street	Milford	IN	46542	X
CTMS Korea		IMC Group			Korea		X
CTVT Motors, LLC	75%	BH Auto	1550 E. Camelback Road	Phoenix	AZ	85014	X
Cubic Designs, Inc.	100%	MiTek	5487 S. Westridge Drive	New Berlin	WI	53151	X
Culpeper News	100%	BH Media	471 James Madison Highway, Suite 201	Culpeper	VA	22701	X
Cumberland Asset Management, Inc.	100%	Russell Corporation	99 Yorkville Avenue Suite 300	Toronto	Canada	M5R 3K5	X
Cumberland Today	100%	BH Media	3229 Anderson Highway	Powhatan	VA	23139	X
Curecanti Dialysis, LLC	17.95%	DaVita Healthcare	1551 Wewatta Street	Denver	CO	80202	X
Curlew Dialysis, LLC	17.95%	DaVita Healthcare	3595 Highway 15-401	McColl	SC	29570	X
Cutting Tools Chile E.I.R.L.		TaeguTec	Alcalde Pedro Alarcon No 765	San Miguel, Santiago	Chile		X
CWP Technologies, Inc.	100%	Scott Fetzer	3871 West 150th	Cleveland	OH	44111	X
Cypress Insurance Company	100%	Berkshire Hathaway	525 Market Street Suite 3110	San Francisco	CA	94105	X
D.C. Properties Ltd.	100%	Iscar	1450 Pandosy Street	Kelowna	Columbia Canada	V1Y 1P3	X
D.C.C. Properties s.r.o.	100%	Iscar	Mánesova 73	Plzeň 3	Czechia	32016	X
D.I. Properties Inc.	100%	Iscar	300 Westway Place	Arlington	Texas	76018	X
DAA Development, Inc.	100%	BH Auto	350 N Saint Paul Ste 2	Dallas	TX	75201	X
Daedalus Leasing Corp.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
DailyProgress.com	100%	BH Media	685 West Rio Road	Charlottesville	VA	22901	X
Dairy Queen Canada, Inc.	100%	Dairy Queen	5045 South Service Road, Suite 3000	Burlington	Ontario, Canada	L7R 3Y3	X
Dairy Queen Corporate Stores, Inc.	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	X
Dairy Queen of Georgia, Inc.	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	
Dalcor Castle Woods, LTD	99.99%	Affordable Housing	15950 North Dallas Parkway, Suite 300	Dallas	TX	75248	X
Dalcor Reef Club, Ltd.	99.99%	Affordable Housing	1901 Island Circle	Kissimmee	FL		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Dalcor Ridge Club, LTD	99.99%	Affordable Housing	15950 North Dallas Parkway, Suite 300	Dallas	TX	75248	X
Dalian ETM Tooling Co., Inc.		IMC Group	No14 Wuwu Road, Zhongshan District	Dalian	Liaoning province, China		X
Dallas-Fort Worth Nephrology II, LLC	17.95%	DaVita Healthcare	9500 N Central Expy	Dallas	TX	75231	X
Dallas-Fort Worth Nephrology, L.P.	17.95%	DaVita Healthcare	1600 W Northwest Hwy, Suite 100	Grapevine	TX	76051	X
Damon Dialysis, LLC	17.95%	DaVita Healthcare	9210 Rockville Rd, Suite D	Indianapolis	IN	46234	X
Danube Limited	11.4%	Phillips 66					X
Danville Register & Bee		BH Media	700 Monument Street	Danville	VA	24541	X
Daroga Dialysis, LLC	17.95%	DaVita Healthcare	2592 E. Aurora Road Suite 200	Twinsburg	OH	44087	X
David Maus Chevrolet (d/b/a for GMVT Motors, LLC)	81%	BH Auto	972 Towne Center Blvd	Sanford	FL	32771	X
David Maus Scion (d/b/a for FLTVT, LLC Florida)	81%	BH Auto	1160 Rinehart Road	Sanford	FL	32771	X
David Maus Toyota (d/b/a for FLTVT, L.L.C. Florida)	81%	BH Auto	1160 Rinehart Road	Sanford	FL	32771	X
David Maus Volkswagen North (d/b/a for RVWVT Motors, LLC)	96%	BH Auto	1050 Lee Road	Orlando	FL	32810	X
David Maus Volkswagen South (d/b/a for DMVW Motors, LLC)	96%	BH Auto	5474 S. Orange Blossom Trail	Orlando	FL	32839	X
Davis Dialysis, LLC	17.95%	DaVita Healthcare	5865 Sunnybrook Drive	Sioux City	IA	51106	X
DaVita - West, LLC	17.95%	DaVita Healthcare	101 Convention Center Drive	Las Vegas	NV	89109	X
DaVita 3SBio Healthcare Management (Liaoning) Co., Ltd.	17.95%	DaVita Healthcare	No. 3 A1, Road 10, Shenyang Economy and Technology Development Zone	Shenyang	China	110027	X
DaVita Care (India) Private Limited	17.95%	DaVita Healthcare	#1/1, First Floor, Berlie Street	Langford Town	Bengaluru, India	560025	X
DaVita Care (Saudi Arabia)	17.95%	DaVita Healthcare			Saudi Arabia		X
DaVita Care (Taiwan) Private Limited	17.95%	DaVita Healthcare	12F-1, No. 19, Section 3 Nanjing East Road	Taipei City Taiwan	China	104	X
DaVita Care Pte, Ltd.	17.95%	DaVita Healthcare	152 Beach Road #19-05 Gateway East	Singapore	Singapore	185927	X
DaVita China Pte, Ltd.	17.95%	DaVita Healthcare	152 Beach Road #19-05 Gateway East	Singapore	Singapore	185927	X
DaVita Clinical Research	17.95%	DaVita Healthcare	825 South 8th Street, Suite 300	Minneapolis	MN	55404	X
DaVita Dakota Dialysis Center, LLC	17.95%	DaVita Healthcare	4474 23rd Avenue S # M	Fargo	ND	58104	X
DaVita Deutschland Beteiligungs GmbH & Co. KG	17.95%	DaVita Healthcare	Middle 110 c	Hamburg	Germany	20149	X

BERKSHIRE HATHAWAY INC. (10% and greater)

DaVita Deutschland GmbH	17.95%	DaVita Healthcare	Middle 110 c	Hamburg	Germany	20149	X
DaVita DPC Holding Co., LLC	17.95%	DaVita Healthcare	601 Hawaii Street	El Segundo	CA	90245	X
DaVita El Paso East, L.P.	17.95%	DaVita Healthcare	11989 Pellicano Drive # A	El Paso	TX	79936	X
DaVita HealthCare Partners Inc.	17.95%	DaVita Healthcare	2000 16th Street	Denver	CO	80202	X
DaVita Healthcare Partners Plan, Inc.	17.95%	DaVita Healthcare	2000 16th Street	Denver	CO	80202	X
DaVita Hospital Management Consulting (Shanghai) Co., Ltd.	17.95%	DaVita Healthcare	Rm. 2369, 23/F, 33 Huayuanshiqiao Road	Shanghai	China	200120	X
DaVita Inc.	17.95%	DaVita Healthcare	2000 16th Street	Denver	CO	80202	X
DaVita Lehbi Cayman	17.95%	DaVita Healthcare			Cayman Islands		X
DaVita NephroLife (India) Private Limited	17.95%	DaVita Healthcare	#1/1, First Floor, Berlie Street	Langford Town, Bengaluru	India	560025	X
DaVita of New York, Inc.	17.95%	DaVita Healthcare	38 Bulkley Avenue	Port Chester	NY	10573	X
DaVita Renal Pte, Ltd.	17.95%	DaVita Healthcare		Singapore	Singapore		X
DaVita Rx, LLC	17.95%	DaVita Healthcare	1234 Lakeshore Drive, Ste 200	Coppell	TX	75019	X
DaVita S.A.S.	17.95%	DaVita Healthcare	Cra 45a No. 103b - 34	Santa Margarita	Cundinamarca	11001000	X
DaVita Seri Setia Sdn Bhd	17.95%	DaVita Healthcare	#17-02 Wisma PERKESO No. 155 Jalan Tun Razak	Kuala Lumpur, Wilayah Persekutuan	Malaysia	50400	X
DaVita Sp. z.o.o.	17.95%	DaVita Healthcare	Fishing 9	Wroclaw	Poland		X
DaVita Tidewater, LLC	17.95%	DaVita Healthcare	420 N Center Drive # 128	Norfolk	VA	23502	X
DaVita Tidewater-Virginia Beach, LLC	17.95%	DaVita Healthcare	1800 Camelot Drive # 100	Virginia Beach	VA	23454	X
DaVita VillageHealth Insurance of Alabama, Inc.	17.95%	DaVita Healthcare	3500 Colonnade Parkway #525	Birmingham	AL	35243	X
DaVita VillageHealth of Georgia, Inc.	17.95%	DaVita Healthcare	P.O. Box 2076	Tacoma	WA	98401	X
DaVita VillageHealth of Ohio, Inc.	17.95%	DaVita Healthcare	10600 Mckinley Road	Blue Ash	OH	45242	X
DaVita VillageHealth of Virginia, Inc.	17.95%	DaVita Healthcare	4510 Cox Road, Suite 106	Glen Allen	VA	23060	X
DaVita-Riverside II, LLC	17.95%	DaVita Healthcare	11161 Magnolia Avenue	Riverside	CA	92505	X
DaVita-Riverside, LLC	17.95%	DaVita Healthcare	4361 Latham Street, Suite 100	Riverside	CA	92501	X
DBVT Development, LLC	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X

BERKSHIRE HATHAWAY INC. (10% and greater)

DBVT Motors, LLC	96%	BH Auto	3000 S Federal Highway	Delray Beach	FL	33483	X
DC Healthcare International, Inc.	17.95%	DaVita Healthcare	429 Florida Ave NE	Washington	DC	20002	X
DCI Marketing Europe GmbH	100%	Marmon	Frankfurter Str. 74	Groß-Gerau	Germany	64521	X
DCI Marketing, Inc.	100%	Marmon	2727 W Good Hope Road	Milwaukee	WI	53209	X
DDVT Development Limited Partnership	100%	BH Auto	350 N Saint Paul Ste 2	Dallas	TX	75201	X
Deer Path SLF, LLC	99.99%	National Indemnity	205 Briarwood Path	Oak Brook	IL	60523	X
Deerwood Fasteners International		Marmon	630 Reese Drive	Conover	NC	28613	X
Deerwood, S.A. de C.V.		Marmon	Av Coyoacan 636 Del Valle	Mexico City	Mexico	03100	X
DeKalb Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	275 Harvestore Drive	DeKalb	IL	60115	X
Dekoron Unitherm LLC	100%	Marmon	1531 Commerce Creek Blvd	Cape Coral	FL	33909	X
Dekoron Wire & Cable LLC	100%	Marmon	1300 Industrial Blvd.	Mt. Pleasant	TX	75455	X
Dekoron Wire and Cable Asia Private Limited	100%	Marmon	Pantech Industrial Complex 192 Pandan Loop #01-10	Singapore	Singapore	128381	X
Deland Development II, LLC	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X
Delimex de Mexico S.A. de C.V.	26.86%	Kraft Heinz	Lopez Mateos 4118-A Centro; San Nicolas de los Garza	Monterrey, Nuevo Leon	Mexico	66400	X
Delray Honda (d/b/a for DBVT Motors, LLC)	96%	BH Auto	3000 S Federal Highway	Delray Beach	FL	33483	X
Delta Incorporated Limited	26.86%	Kraft Heinz		Tortola	British Virgin Islands		X
Delta Veneer Investors, LLC		Shaw	1512 Bridewell Lane	Port Gibson	MS	39150	X
Delta Wholesale Liquors, Inc.	100%	McLane	802 Rozell	Memphis	TN	38104	X
Denison Bulletin & Review (d/b/a for Southwest Iowa Newspapers, Inc.)	100%	BH Media	1410 Broadway	Denison	IA	51442	X
Denver Brick Company		Acme Brick	2821 W. 7th Street	Fort Worth	TX	76107	
Denver Retail and Convenience LLC	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Desert Building Materials (d/b/a for L&W Supply Corporation)	29.95%	USG	2310 W. Gardner Lane	Tucson	AZ	85705	X
Desert Rocks Dialysis, LLC	17.95%	DaVita Healthcare	7362 W Thunderbird Rd, Ste 104	Peoria	AZ	85381	X
Desert Willow Apartments, LLC	99.99%	Affordable Housing	1895 E Don Carlos Ave	Tempe	AZ	85281	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Desoto Dialysis, LLC	17.95%	DaVita Healthcare	2702 Navarre Ave Suite 203	Oregon	OH	43616	X
DeSoto Knits S de RL	100%	Fruit of the Loom	2.5 Km. a la Jutosa	Choloma, Cortés	Honduras		
Detlev Louis Holding GmbH	100%	Detlev Louis					X
Detlev Louis Motorrad-Vertriebs GmbH	100%	Detlev Louis	Rungedamm 35	Hamburg	Germany	21035	X
Detlev Louis Motorrad-Vertriebsgesellschaft GmbH	100%	Detlev Louis					X
Devon Park Specialty Insurance	100%	United States Liability Insurance Company	1170 Devon Park Dr.	Wayne	PA	19087	X
DHI-Kachina Apartments, LLC	99.99%	National Indemnity	316 N Avenue A	Casa Grande	AZ	85122	X
Diablo Dialysis, LLC	17.95%	DaVita Healthcare	1923 Marsha Sharp FWG #102	Lubbock	TX	79415	X
Dializa Grojec Sp. z.o.o.	17.95%	DaVita Healthcare	St. Leszczyńskiego 40A	Capital City	Warsaw	02-496	X
Dialyse-Zentrum Hamburg-Ost GmbH	17.95%	DaVita Healthcare	Alte Holstenstraße 16	Hamburg	Germany	21031	X
Dialysis Holdings, Inc.	17.95%	DaVita Healthcare	1551 Wewatta Street	Denver	CO	80202	X
Dialysis of Des Moines, LLC	17.95%	DaVita Healthcare	501 SW 7th Street	Des Moines	IA	50309	X
Dialysis of North Atlanta, LLC	17.95%	DaVita Healthcare	2001 Professional Parkway	Woodstock	GA	30188	X
Dialysis of Northern Illinois, LLC	17.95%	DaVita Healthcare	2200 Gateway Drive	Sycamore	IL	60178	X
Dialysis Specialists of Dallas, Inc.	17.95%	DaVita Healthcare	8101 Brookriver Drive	Dallas	TX	75247	X
Diedrich Technologies, Inc.		MiTek	7373 S. 6th Street	Oak Creek	WI	53154	X
Dieppe Decor Inc.	97.6%	Benjamin Moore	438 Paul Street, Unit #1	Dieppe	NB	E1A 4Z2	X
Disercor S.A.		TaeguTec	11 de septiembre 4237, piso7	Capital Federal	Argentina	C1429BJC	X
Display Tech (Europe) Ltd.	100%	Marmon	Bishop Meadow Road	Loughborough Leicestershire	UK	LE11 5TH	X
Display Technologies, LLC	100%	Marmon	1111 Marcus Ave, Suite M68	Lake Success	NY	11042	X
Distribuidora Fruit of the Loom S.A. de C.V.	100%	Fruit of the Loom	Av. Diagonal Patriotismo #1 - 4o.piso	Col. Hipodromo Condesa	Mexico	06170	X
Distribuidora Heinz Caracas, C.A.	26.86%	Kraft Heinz	Cl. Milan, Galpón Galpón, Piso Pb, Local 20, Urbanización Los Ruices	Caracas	Venezuela		X
Distribuidora Heinz Maracaibo, C.A.	26.86%	Kraft Heinz		Caracas	Venezuela		X
Distribution International Corporation		XTRA Corporation	1801 Park 270 Dr Ste 400	St. Louis	MO	63146	X

BERKSHIRE HATHAWAY INC. (10% and greater)

DiverDrugs, S.L.	100%	Lubrizol	Isaac Peral 17 Poligon Cami Ral	Gavà	Spain	08850	X
DL Holdings		Detlev Louis					X
DL Holdings - Austria		Detlev Louis					X
DL Holdings - German		Detlev Louis					X
DL Trading Holdings I, Inc.	100%	Charter Brokerage	22762 Westheimer Parkway, Suite 515	Katy	TX	77450	X
DL Trading, Ltd.	100%	Charter Brokerage	22762 Westheimer Parkway, Suite 515	Katy	TX	77450	X
DMVW Motors, LLC	96%	BH Auto	1050 Lee Road	Orlando	FL	32810	X
DNH Medical Management, Inc.	17.95%	DaVita Healthcare	100 N Sepulveda Blvd	El Segundo	CA	90245	X
DNP Management Company, LLC	17.95%	DaVita Healthcare	215 Willards Way	Stafford	TX	77477	X
Dolores Dialysis, LLC	17.95%	DaVita Healthcare	30885 Date Palm Drive	Cathedral City	CA	92234	X
Dome Dialysis, LLC	17.95%	DaVita Healthcare	241 W Schrock Road	Westerville	OH	43081	X
Dongguan Brooks Sports Consulting Co., Ltd.	100%	Brooks Sports		Guangdong	China		X
Dornoch 2011 Limited	12.07%	Moody's	7 Exchange Crescent, Conference Square	Edinburgh Midlothian	UK	EH3 8RD	X
Douglas Building, LLC	100%	BH Media	1314 Douglas Street	Omaha	NE	68102	X
Douglas Oil Company of California	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Douglas Quikut, a division of Scott Fetzer Company	100%	Scott Fetzer	118 East Douglas Rd.	Walnut Ridge	Arkansas	72476	X
Douglas Stations, Inc.	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Dovecoast Housing, LP	99.99%	National Indemnity	8455 Lyndon Lane	Austin	TX	78729	X
Doves Dialysis, LLC	17.95%	DaVita Healthcare	9850 Carmel Mountain Rd	San Diego	CA	92129	X
Downers Grove Supportive Living Facility, LLC	99.99%	Affordable Housing		Downers Grove	IL		X
Downriver Centers, Inc.	17.95%	DaVita Healthcare	5600 Allen Road	Allen Park	MI	48101	X
Downtown Houston Dialysis Center, L.P.	17.95%	DaVita Healthcare	2207 Crawford Street	Houston	TX	77002	X
DPC Vail, LLC	17.95%	DaVita Healthcare	601 Hawaii St	El Segundo	CA	90245	X
DQ Funding Corporation	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	X

BERKSHIRE HATHAWAY INC. (10% and greater)

DQ Joint Venture Stores, Inc.	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	
DQ Managed Stores, Inc.	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	
DQ Overseas LLC	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	X
DQ Training Restaurants, LLC	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439	X
DQ Wholly-Owned Stores, Inc.	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	X
DQF Properties One, LLC	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439	X
DQF Properties Two, LLC	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439	X
DQF, Inc.	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	X
DQGC, Inc.	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439	X
Drillamex, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
DRL Manufacturing S.A.	99.99%	Richline Group	L Izquierda 1	San Pedro de Macoris	Dominican Republic		X
Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	1012 Rankin Road	Houston	TX	77073	X
Duct Pipe, LLC	100%	MiTek	4001 Mark IV Parkway	Fort Worth	TX	76106	X
Duracarb (Israel) Ltd.	99%	IMC International	Industrial Garden, rope Tefen	Karmiel	Isreal	24 952	
Duracarb Korea Ltd.	51%	IMC International			Korea		X
Durango Dialysis Center, LLC	17.95%	DaVita Healthcare	72 Suttle Street, Suite D	Durango	CO	81303	X
DV Care GmbH	17.95%	DaVita Healthcare	Nymphenburger str. 3 c.	Munich	Germany	80335	X
DV Care Netherlands B.V.	17.95%	DaVita Healthcare		Amsterdam	Netherlands		X
DVA (Malaysia) SDN, BHD.	17.95%	DaVita Healthcare			Malaysia		X
DVA Healthcare of Maryland, Inc.	17.95%	DaVita Healthcare	409 N Caroline Street	Baltimore	MD	21231	X
DVA Healthcare of Massachusetts, Inc.	17.95%	DaVita Healthcare	322 Washington Street	Brookline	MA	02445	X
DVA Healthcare of New London, LLC	17.95%	DaVita Healthcare	5 Shaws Cove # 100	New London	CT	06320	X
DVA Healthcare of Norwich, LLC	17.95%	DaVita Healthcare	113 Salem Turnpike	Norwich	CT	06360	X
DVA Healthcare of Pennsylvania, Inc.	17.95%	DaVita Healthcare	32 Steubenville Pike	Burgettstown	PA	15021	X

BERKSHIRE HATHAWAY INC. (10% and greater)

DVA Healthcare of Tuscaloosa, LLC	17.95%	DaVita Healthcare	544 US Highway 43 South	Eutaw	AL	35462	X
DVA Healthcare Procurement Services, Inc.	17.95%	DaVita Healthcare	2000 16th Street	Denver	CO		X
DVA Healthcare Renal Care, Inc.	17.95%	DaVita Healthcare	601 Hawaii Street	El Segundo	CA	90245	X
DVA Healthcare-Southwest Ohio, LLC	17.95%	DaVita Healthcare	1210 Hicks Blvd	Fairfield	OH	45014	X
DVA Laboratory Services, Inc.	17.95%	DaVita Healthcare	3951 SW 30th Avenue	Fort Lauderdale	FL	33312	X
DVA of New York, Inc.	17.95%	DaVita Healthcare	601 Hawaii Street	El Segundo	CA	90245	X
DVA Renal Care Portugal, Unipessoal LDA	17.95%	DaVita Healthcare	Av Engenheiro Duarte Pacheco 26	Lisboa	Portugal	1070 - 110	X
DVA Renal Healthcare, Inc.	17.95%	DaVita Healthcare	601 Hawaii Street	El Segundo	CA	90245	X
DVA/Washington University Healthcare of Greater St. Louis, LLC	17.95%	DaVita Healthcare	400 N Lindbergh Blvd	St. Louis	MO	63141	X
Dynamax		Forest River, Inc.	2745 Northland Drive	Elk Hart	IN	46514	X
Dynamic Development, Inc.	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X
Dynamic Tooling Services		TaeguTec	No.301, 3rd Floor, Royal Centre, Fazal-ul-Haque Road	Blue Area, Islamabad	Pakistan		X
E. S. Investments Inc.	100%	Marmon	1997 Lemontree Lane	Collinsville	IL	62234-5252	X
Eagle Polyiso Corporation		Johns Manville	717 17th Street	Denver	CO	80202	X
East End Dialysis Center, Inc.	17.95%	DaVita Healthcare	2201 East Main Street	Richmond	VA	23223	X
East Ft. Lauderdale, LLC	17.95%	DaVita Healthcare	1301 South Andrews Avenue	Fort Lauderdale	FL	33316	X
East Houston Kidney Center, L.P.	17.95%	DaVita Healthcare	11515 Market Street Road	Houston	TX	77029	X
Eastech Chemical Inc.		National Indemnity	5700 Tacony Street	Philadelphia	PA	19135-4312	X
EastGUARD Insurance Company	100%	National Indemnity	16 South River Street	Wilkes-Barre	PA	18702	X
Eastside Building Materials Co. (d/b/a for L&W Supply Corporation)	29.95%	USG	28187 Kehrig Drive	Chesterfield	MI	48047	X
Eastside Paint & Wallpaper (Erindale) Inc.	82.3%	Benjamin Moore	406 Ludlow Street, Unit #1	Saskatoon	SK	S7S 1M7	X
Eastside Paint & Wallpaper Inc.		Benjamin Moore	1210A Walpole Ave.	Saskatoon	SK	S7H 2X2	X
Ebora Creacious S.L.		Fruit of the Loom			Spain		X
Ebrea Dialysis, LLC	17.95%	DaVita Healthcare	19720 Governors Hwy Suite 2	Flossmoor	IL	60422	X

BERKSHIRE HATHAWAY INC. (10% and greater)

E-C Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	3603 Hogarth Street	Eau Claire	WI	54703	X
Eco Color Company	100%	Marmon		Bushkill	PA		X
Ecodyne Corporation	100%	Marmon	502 E. John Street	Carson City	NV	89706	
Ecodyne Heat Exchangers LLC	100%	Marmon	8203 Market Street Road	Houston	TX	77029	X
Ecodyne Limited	100%	Marmon	4475 Corporate Drive	Burlington	Ontario Canada	L7L 5T9	X
Ecodyne MRM LLC	100%	Marmon	607 First St. SW	Massillon	OH	44646	
Ecodyne UET Schweiz AG	100%	Marmon	Wilstrasse 11	Uster	Switzerland	CH 8610	X
Ecodyne Water Treatment LLC	100%	Marmon	1270 Frontenac Road	Naperville	IL	60563	X
Ecodyneuet de Mexico S. de R.L. de C.V.	100%	Marmon	Martires de Rio Blanco 19-A Parque Industrial 5 de Mayo	Peubla	Pue., Mexico	72920	X
Economy.com (Canada) Inc.	12.07%	Moody's	301 Metcalfe Street	Ottawa	Ontario Canada	K2P1R9	X
Economy.com (U.K.) Limited	12.07%	Moody's	Suite 003 Erico House, 93-99 Upper Richmond Road	London	UK	SW15 2TG	X
EcoQuimica Industria e Comercio Produtos Quimica Ltda.	100%	Lubrizol		Paulinia, Sao Paulo	Brazil		X
Ecowater Canada Ltd.	100%	Marmon	5240 Bradco Blvd.	Mississauga	Ontario Canada	L4W 1G7	X
Ecowater Systems Europe NV	100%	Marmon	Geelseweg 56	Olen	Belgium	B 2250	X
EcoWater Systems Germany GmbH	100%	Marmon	M?estrasse 58	Filderstadt	Germany	70794	X
Ecowater Systems Italia S.r.l.	100%	Marmon	37/39, v. Malvolti	Modena	Italy	41100	X
Ecowater Systems LLC	100%	Marmon	P.O. Box 64420	St. Paul	MN	55164-0420	X
Eden Europe S.R.O.	100%	Marmon	Náměstí Práce 483 / 1	Adamov	Czech Republic	679 04	X
Eden News	100%	BH Media	1921 Vance St.	Reidsville	NC	27320	X
Edificadora de Valle Hermoso, S.A. de C.V.	100%	Fruit of the Loom	Av. Ing. Eduardo Chavez Lotes 16 Y 17	Valle Hermoso	Tammaulipas Mexico	87500	
EJM Crew Services, LLC	100%	NetJets	4556 Airport Road	Cincinnati	OH	45226	X
EJM India Aircraft Management Private Limited	100%	NetJets	D-201, Shyamkamal Building Agarwal Market, Vile Parle East Mumbai	Mumbai	Maharashtra, India	400057	X
EJME (Portugal) Aircraft Management Limitada	100%	NetJets	Calvet Magalhães Street Nr. 245 Block B	PAÇO DE ARCOS	Portugal		X
EJME Holdings Limited	25%	NetJets	5 Young Street, Kensington	London	England	W8 5EH	X

BERKSHIRE HATHAWAY INC. (10% and greater)

El Porvenir Mfg. S. De R.L. de C.V.	100%	Fruit of the Loom	Km. 7 Carretera A Tela, E El Progreso	Yoro	Honduras		X
Elberton Dialysis Facility, Inc.	17.95%	DaVita Healthcare	894 Elbert Street	Elberton	GA	30635	X
Elbows, LLC	100%	MiTek	P.O. Box 163409	Fort Worth	TX	76161	X
ElecMetalTech JV Limitada	50%	Iscar			Chile		
Eleco Bauprodukte Gmbh		MiTek	Erdinger Str. 82a	Freising	Germany	85356	X
Electro Tecnica Del Norte, SA de CV	99.8%	Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X
Electropages Ltd.	100%	TTI, Inc.	8 High Street	Brentwood, Essex	UK	CM14 4AB	X
Elgin Dialysis, LLC	17.95%	DaVita Healthcare	1546 Chestnut St	Colorado City	TX	79512	X
Elite Automotive Group (<i>d/b/a for Reliable Chevrolet (MO), LLC</i>)	81%	BH Auto	3727 S. Campbell	Springfield	MO	65807	X
Elite Mercedes		BH Auto	3655 S. Campbell	Springfield	MO	65807	X
Elitemed sp. z.o.o.	17.95%	DaVita Healthcare	Beautiful 11A/11	Capital City	Warsaw	00-549	X
Elk Grove Dialysis Center, LLC	17.95%	DaVita Healthcare	9281 Office Park Circle	Elk Grove	CA	95758	X
Ellis & Watts Global Industries, LLC	100%	MiTek	4400 Glen Willow Lake Lane	Batavia	OH	45103	X
Elm Street Corporation	100%	General Re	695 E. Main Street	Stamford	CT	06904	X
EMC Traction, S.r.l.		Marmon	Strada Statale 11 Padana Superiore 133	Vimodrone	Italy	20090	X
emnos GmbH	14.65%	American Express	Theresienhöhe 12	Munich	Germany	80339	X
emnos Iberia S.L.	14.65%	American Express	Balbuena 11-13	Madrid	Spain	28002	X
emnos S.a.r.l.	14.65%	American Express	97 rue St Lazare	Paris	France	75009	X
emnos UK Ltd.	14.65%	American Express	2 The Green	Richmond	UK	TW9 1PL	X
emnos USA Corp.	14.65%	American Express	300 N. LaSalle, Suite 5575	Chicago	IL	60654	X
Empire Distributors of North Carolina, Inc.	100%	McLane	3755 Atlanta Industrial Pkwy	Atlanta	GA	30331	X
Empire Distributors, Inc.	100%	McLane	3755 Atlanta Industrial Pkwy	Atlanta	GA	30331	X
Empire State DC, Inc.	17.95%	DaVita Healthcare	60 Haven Avenue, Suite 1D	New York	NY	10032	X
Employers Insurance Services, Inc.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	

BERKSHIRE HATHAWAY INC. (10% and greater)

Empresas Turisticas Integradas, S.A. de C.V. (95% owned by American Express)	13.6%	American Express			Mexico		X
Empress Travel Ltd.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Empressa Inmobiliaria del Potosi, S.A. de C.V.	100%	Marmon					X
ENB Consulting (Asia) Limited	12.07%	Moody's	Rm 205, 2/F Baskerville House, 13 Duddell Street	Central	Hong Kong		X
ENB Consulting Asia (Singapore) Pte. Limited	12.07%	Moody's	Rm 205, 2/F Baskerville House, 13 Duddell Street	Central	Hong Kong		X
ENB Consulting Ltd.	12.07%	Moody's	Great Barn, Birtley Courtyard	Bramley, Surrey	UK	GU5 0LA	X
Enchanted Dialysis, LLC	17.95%	DaVita Healthcare	80 State Street	Albany	NY	12207	X
Enersul Inc.	100%	Marmon	7210 Blackfoot Trail S.E.	Calgary	Alberta Canada	T2H 1M5	X
Enersul L.P.	100%	Marmon	7210 Blackfoot Trail SE	Calgary	Alberta Canada	T2H 1M5	X
Enersul Operations		Marmon	7210 Blackfoot Trail S.E.	Calgary	Alberta Canada	T2H 1M5	X
Enersul Saudi Limited Co.	60%	Marmon			Saudi Arabia		X
Enersul Technologies		Marmon	7210 Blackfoot Trail S.E.	Calgary	Alberta Canada	T2H 1M5	X
eNIC Cocos (Keeling) Island Pty. Ltd.	11.11%	VeriSign Inc.	5 Queens Road	Melbourne, VIC	Australia	3004	X
eNIC Corporation	11.11%	VeriSign Inc.	999 Third Avenue, Suite 4401	Seattle	WA	98104	X
Enterprise RB Fund II, LLLP	99.99%	Clayton Homes	10227 Wincopin Cir # 810	Columbia	MD	21044	X
Envy Paint and Design Ltd.	87.5%	Benjamin Moore	130 - 1600 Kenaston Blvd.	Winnipeg	Manitoba Canada	R3P 0Y4	X
EpriseNow.com	100%	BH Media	106 N. Edwards St.	Enterprise	AL	36331	X
Epsom Limited		Marmon	The Old Corn Mill Congleton Road Siddington	MacClesfield, Cheshire	UK	SK11 9JR	X
Epuro Polska Sp. Z.o.o.	100%	Marmon	ul. 6 the Baltic	Poznan	Poland	61-021	X
Epuro SAS	99.99%	Marmon	111, Rue de la République	Belleville	France	69220	X
EquityComp (d/b/a for Applied Underwriters)	100%	Applied Underwriters	950 Tower Lane, 14th Floor	Foster City	CA	94404	X
Especialistas en Salud-Esensa S.A.S.	17.95%	DaVita Healthcare	CA 7 Bis 124 29	Bogota	Columbia		X
Espeja sp. z.o.o.	17.95%	DaVita Healthcare	Casimir the Great 1, Wroclaw	Capital City	Warsaw	50-077	X
Estalina Dor S.L.		Fruit of the Loom	Calle Franca 1, Igualada,	Barcelona	Spain	08700	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Etisa Holdings Ltd.	14.65%	American Express			Cayman Islands		X
Etowah Dialysis, LLC	17.95%	DaVita Healthcare	109 Grady Rd	Etowah	TN	37331	X
Eufaula Dialysis, LLC	17.95%	DaVita Healthcare	220 N Orange Ave	Eufaula	AL	36027	X
Eufaula Tribune	100%	BH Media	514 E. Barbour St.	Eufaula	AL	36027	X
Eunice Housing, LP	99.99%	Affordable Housing		Eunice	LA		X
Eurodial-Centro de Nefrologia e Diálise de Leiria, S.A.	17.95%	DaVita Healthcare	Rua da Carrasqueira, 19 Partners	Leiria	Portugal	441-2400	X
Europa Re (Dublin) Limited		General Re	Grand Canal House 1 Upper Grand Canal St.	Dublin	Ireland		X
Evansville Automotive (LEX), LLC	96%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	85014	X
Evansville Automotive, LLC	96%	BH Auto	5600 East Division St.	Evansville	IN	47715	X
Evansville Dealership Property, L.P.	100%	BH Auto	8500 Shawnee Mission Pkwy, Ste 200	Shawnee Mission	KS	66202	X
Ever 5000 Limited		Marmon	2-20 Booth Drive, Park Farm Industrial Estate	Wellingborough, Northants	UK	NN8 6GR	X
Everglades Dialysis, LLC	17.95%	DaVita Healthcare	125 E Michigan Avenue	Grayling	MI	49738	X
Evergreen Home Finance, LLC	50%	Clayton Homes	620 Market St., Ste. 100	Knoxville	TN	37902	X
Evergreen Nylon Recycling, LLC	100%	Shaw	P. O. Drawer 2128	Dalton	GA	30722-2128	X
EWI Global Industries, Inc.	100%	MiTek					X
EWMS B.V.	100%	Larson Juhl	Energieweg 23, 3771NA	Barneveld	Netherlands		X
Executive Jet Europe, Inc.		NetJets	581 Main Street	Woodbridge	NJ	07095	X
Executive Jet Management (Europe) Limited	100%	NetJets	5 Young Street	London	England	W8 5EH	X
Executive Jet Management, Inc.	100%	NetJets	4556 Airport Road	Cincinnati	OH	45226	X
Executive Jets Servicos de Gestao LDA		NetJets	Avenida Descobertas	Oeiras	Portugal		X
Exevo Inc.	12.07%	Moody's	575 Lexington Avenue, Ste 400	New York	NY	10022	X
Exevo India Private Ltd.	12.07%	Moody's	g-6/b-1, mohan co-operative, industrial estate	New Delhi	India	110044	X
Exevo Research Private Ltd.	12.07%	Moody's	845 Third Avenue, Suite 623	New York	NY	10022	X
Exportadores Bolivianos, SRL	100%	Richline Group	Calle David Garzon 285, Pura Pura	La Paz	Bolivia		X

BERKSHIRE HATHAWAY INC. (10% and greater)

EXSIF China	100%	Marmon	KERRY Center 1515 West Nanjing Road	Shanghai	China	200040	X
EXSIF OCS Limited	100%	Marmon	41 Abbotswell Road	Aberdeen, Aberdeenshire	Scotland	AB12 3AD	X
Exsif S.A.S.		Marmon	7 rue Jean Mermoz, Bat B	Versailles	France	FR-78000	X
EXSIF Worldwide GmbH	100%	Marmon	Claus-Ferck-Str. 5	Hamburg	Germany	22359	X
EXSIF Worldwide, Inc.	100%	Marmon	2700 Westchester Ave., Suite 400	Purchase	NY	10577	X
Extracorp Aktiengesellschaft	17.95%	DaVita Healthcare	Feldbrunnenstr. 57	Hamburg	Germany	20148	X
ExtruMed, Inc.	100%	Lubrizol	547 Trm Cir	Corona	CA	92879	X
Fairfield Dialysis, LLC	17.95%	DaVita Healthcare	4660 Central Way	Fairfield	CA		X
Fairfield Insurance Company		General Re	P.O. Box 10350	Stamford	CT	06904-2350	X
Fairview Wiggins, LP	99.99%	Affordable Housing	111 Rolling Meadows Rd	Ridgeland	MS	39157	X
Falcon Training Center	50%	FlightSafety	BP 25, Zone d'Aviation d'Affaires Bldg 404, Aeroport du Bourget	Le Bourget CEDEX	France	93352	X
Falcon, LLC	17.95%	DaVita Healthcare	1627 Cole Boulevard	Lakewood	CO	80401	X
Fall Ridge Partners LLP	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	X
Falls Dialysis, LLC	17.95%	DaVita Healthcare	180 E Lincoln Trail Boulevard	Radcliff	KY	40160	X
Fancom B.V.	100%	CTB International	Industrieterrein 34, P.O. Box 7131	5980 AC Panningen	Netherlands		X
Fancom EURL	100%	CTB International	113 Rue de Fougères, Z.A. du Chalot, B.P. 106	Vitre Cedex	France	35501	X
Fancom Holding B.V.	100%	CTB International	Industrieterrein 34, P.O. Box 7131	Panningen	Netherlands	5980 AC	X
Fann Properties, II, LLC	100%	BH Auto	1550 E. Missouri Avenue #300	Phoenix	AZ	85014	X
Fanthorp Dialysis, LLC	17.95%	DaVita Healthcare	1400 Madison Ave, Ste 400	Mankato	MN	56001	X
Faraday Capital Limited	100%	General Re	New London House, 6 London St.	London	England	EC3R 7QL	X
Faraday Group Services Limited		General Re	New London House, 6 London St.	London	England	EC3R 7QL	X
Faraday Holdings Limited	100%	General Re	New London House, 6 London St.	London	England	EC3R 7QL	X
Faraday Insurance Services Limited		General Re	New London House, 6 London St.	London	England	EC3R 7QL	X
Faraday Reinsurance Co. Limited	100%	General Re	New London House, 6 London St.	London	England	EC3R 7QL	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Faraday Underwriting Limited	100%	General Re	New London House, 6 London St.	London	England	EC3R 7QL	X
Farmyard Five Limited	100%	Lubrizol		Holywell, Flintshire	UK		
Farmyard Four Limited	100%	Lubrizol		Holywell, Flintshire	UK		
Farragut Dialysis, LLC	17.95%	DaVita Healthcare	2958 Dorchester Drive	Montgomery	AL	36116	X
Farrington American Express Travel Services Limited	14.65%	American Express	17/F Millenium City 6, 392 Kwun Tong Road	Kwun Tong Kowloon	China		X
Fayette Cotton Mill, Inc.		Fruit of the Loom	One Fruit of the Loom Drive	Bowling Green	KY	42103	X
FBNC Ltd.	26.86%	Kraft Heinz	5 Ben David St. Ind. Zone	Rishon Lezion	Israel		
Featherlite Building Products Corporation		Acme Brick	2821 W. 7th Street	Fort Worth	TX	76107	X
Featherlite Corporation		Acme Brick	325 N Americas Ave.	El Paso	TX	79907	X
Featherlite Precast Corporation		Acme Brick	2824 Real St.	Austin	TX	78722	X
Fermat (Beijing) Software Co. Ltd.	12.07%	Moody's			China		X
Fermat Australia Pty. Ltd.	12.07%	Moody's	Suite 20, 331 Balmain Road, Lillyfield	Sydney	Australia	NSW 2040	X
Fermat Co. Ltd.	12.07%	Moody's	17th Fl., Jongno Tower Bldg., 6, Jongro2- ga, Jongro-gu	Seoul	Korea		X
Fermat Finance SPRL	12.07%	Moody's	Chaussée de la Hulpe 166	Brussels	Belgium		X
Fermat FZ LLC	12.07%	Moody's	Office n°3403, Al Shatha Tower	Dubai Internet City	United Arab Emirates		X
Fermat GmbH	12.07%	Moody's	Gervinusstrasse 18-22	Frankfurt am Main	Germany	D-60322	X
Fermat Inc.	12.07%	Moody's	7WTC at 250 Greenwich St.	New York	NY	10007	X
Fermat International SA	12.07%	Moody's	Chaussée de la Hulpe 166	Brussels	Belgium	1170	X
Fermat Limited	12.07%	Moody's	Level 30, Bank of China Tower, 1 Garden Rd Central		Hong Kong		X
Fermat Private Ltd.	12.07%	Moody's	3 Church Street #16-03/04	Samsung Hub	Singapore	049483	X
Fermat S.p. z.o.o.	12.07%	Moody's	ILMET Al. Jana Pawla II, 15, XIII floor	Warsaw	Poland	00-828	X
Fermat SAS	12.07%	Moody's	436, Bureaux de la Colline Bâtiment E - 12e étage	St-Cloud Cedex	France	92213	X
Fermatsa Servicosde Informatica LTDA	12.07%	Moody's			Brazil		X
Ferreindustrial ISO-DIN C.A.		Iscar	Av Pres Medina con Nueva Granada, Edif La Roca, mezz, local 10, Las Acacias	Caracas	Venezuela	1040A	X

BERKSHIRE HATHAWAY INC. (10% and greater)

FFBH Development, Inc.	100%	BH Auto	P.O. Box 16460	Phoenix	AZ	85011	X
FFBH Motors, LLC	93%	BH Auto	3701 Stevens Creek Blvd	Santa Clara	CA	95051	X
FFW de Mexico, S.A. de C.V.	100%	Marmon	Ave. Uniones # 2200	Matamoros	Mexico	87340	X
FG Technotools-G. & K. Fakitsas Co.		TaeguTec	25th Martiou & Thrakis 15	Vrilissia, Athens	Greece	15235	X
FHFM Ltd.	26.86%	Kraft Heinz	5 Ben David St. Ind. Zone	Rishon Lezion	Israel		
FHFX Ltd.	26.86%	Kraft Heinz		Tel Aviv	Israel		
Fideicomiso Empresarial Amex	14.65%	American Express	Avenida Patriotismo #635, Col. Ciudad de los Deportes	Mexico City	Mexico	03710	X
Fields Dialysis, LLC	17.95%	DaVita Healthcare	5901 Montclair Boulevard	Milford	OH	45150	X
Filtrex International Pte. Ltd.	100%	Marmon		Singapore			X
Filtrex Technologies Private Limited	100%	Marmon	#36/4, Raghavendra Nagar, 4th Cross, Meganahalli, HBR Layout	Bengaluru, Karnataka	India	560043	X
Financial Services Plus, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	
Finial Holdings, Inc.	100%	National Indemnity	One Chase Manhattan Plaza	New York	NY	10005	X
Finial Reinsurance Company	100%	National Indemnity	One Chase Manhattan Plaza	New York	NY	10005	X
Firelake Mfg., LLC	49%	CTB International	P.O. Box 388, 961 N. First St.	Dassel	MN	55325-0388	X
First American Carriers, Inc.	100%	McLane	P.O. Box 800	Rocky Mount	NC	27802	X
First Berkshire Hathaway Life Insurance Company	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
First Berkshire Properties, LLC	100%	National Indemnity	570 Delaware Avenue	Buffalo	NY	14202	X
First Symetra National Life Insurance Company of New York	17.3%	Symetra Financial	P.O. Box 34690	Seattle	WA	98124	X
Fitnessland, Inc. (50% thru H. J. Heinz Company)	13.43%	Kraft Heinz	7061 Yonge St	Thornhill	Ontario, Canada	L3T 2A5	
Five Star Dialysis, LLC	17.95%	DaVita Healthcare	2400 Tech Center Court	Las Vegas	NV	89128	X
Fiware Holdings, Inc.	14.65%	American Express	155 Technology Pky, Ste 400	Norcross	GA	30092	X
Fjords Dialysis, LLC	17.95%	DaVita Healthcare	9310 Spring Road	Ocala	FL	34472	X
Flagler Dialysis, LLC	17.95%	DaVita Healthcare	22620 Goldencrest DR Ste 101	Moreno Valley	CA	92553	X
Flamingo Park Kidney Center, Inc.	17.95%	DaVita Healthcare	901 E 10th Ave Bay 17	Hialeah	FL	33010	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Fleetline Products Inc.	100%	Marmon	784 Bill Jones Industrial Dr.	Springfield	TN	37172	X
FlightSafety Academy (d/b/a for FlightSafety International Inc.)	100%	FlightSafety	2805 Airport Drive	Vero Beach	FL	32960	X
FlightSafety Canada, Ltd.	100%	FlightSafety	9555 Ryan Avenue	Dorval	Quebec Canada	H9P 1A2	X
FlightSafety Capital Corporation	100%	FlightSafety	Marine Air Terminal, LaGuardia Airport	Flushing	NY	11371	X
FlightSafety China, Inc.		FlightSafety	Marine Air Terminal, LaGuardia Airport	Flushing	NY	11371	X
FlightSafety Development Corp.	100%	FlightSafety	Marine Air Terminal, LaGuardia Airport	Flushing	NY	11371	X
FlightSafety International Australia Pty. Ltd.	100%	FlightSafety	Lot 8 Catalina Drive	Tullamarine	Victoria, Australia	3043	X
FlightSafety International Hong Kong Limited	100%	FlightSafety			Hong Kong		X
FlightSafety International Inc.	100%	FlightSafety	Marine Air Terminal, LaGuardia Airport	Flushing	NY	11371	X
FlightSafety International Japan Inc.	100%	FlightSafety	No.5 Sougou Building, 1-6-5 Ota-ku	Tokyo	Japan	144-0046	X
FlightSafety International Netherlands B.V.	100%	FlightSafety	Tubastraat 31	Spijkennisse	Netherlands	3208DS	X
FlightSafety International Norway AS	100%	FlightSafety		Oslo	Norway		X
FlightSafety International Singapore Pte. Ltd.	100%	FlightSafety		Singapore	Singapore		
FlightSafety International South Africa Ltd.	100%	FlightSafety	Denel Aviation, Building A7, Atlas Road, Kempton Park	Johannesburg	South Africa	1619	X
FlightSafety International Switzerland SARL	100%	FlightSafety	Rue Pédro-Meylan 5	Genève	Switzerland	1208	X
FlightSafety International Thailand Co. Ltd.	100%	FlightSafety		Bangkok	Thailand		
FlightSafety International Treinamento Em Aviacao Ltda.	100%	FlightSafety		Sao Paulo	Brazil		
FlightSafety International U.K. Limited	100%	FlightSafety	Airpark Rowley Road	Coventry	England	CV3 4FR	X
FlightSafety New York, Inc.	100%	FlightSafety	Marine Air Terminal, LaGuardia Airport	Flushing	NY	11371	X
FlightSafety NMTC LLC	100%	FlightSafety	2700 N Hemlock Cir	Broken Arrow	OK	74012	X
FlightSafety Properties, Inc.	100%	FlightSafety	Marine Air Terminal, LaGuardia Airport	Flushing	NY	11371	X
FlightSafety SARL	100%	FlightSafety	404, Aeroport du Bourget 93352 Le Bourget	CEDEX	France		X
FlightSafety Services Corporation	100%	FlightSafety	Marine Air Terminal, LaGuardia Airport	Flushing	NY	11371	X
FlightSafety Texas, Inc.		FlightSafety	Marine Air Terminal, LaGuardia Airport	Flushing	NY	11371	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Flightspares Electronics Ltd.		TTI Inc.	Ganghoferstr. 34	Maisach-Gernlinden	Germany	82216	X
Floors Inc.	80.1%	Nebraska Furniture Mart	P.O. Box 22877	Lincoln	NE	68542	X
Flor Dialysis, LLC	17.95%	DaVita Healthcare	1809 Avenue H	Ensley	AL	35218	X
Flow Improvers LLC	100%	Lubrizol	Houston Pkwy S. 3rd Floor, Suite 320	Houston	TX	77042	X
FLTVT, L.L.C. Florida	81%	BH Auto	1160 Rinehart Road	Sanford	FL	32771	X
FMAVT Motors, LLC	83%	BH Auto	28400 Marguerite Blvd	Mission Viejo	CA	92692	X
Foamtastic Products, Inc.		MiTek	441 Boot Road, Suite 100	Downingtown	PA	19335	X
FOL International	100%	Fruit of the Loom	Ballymacarry Buncrana Co.	Donegal	Ireland		X
FOL International Gmbh	100%	Fruit of the Loom	Von-Miller-Str. 9	Kaiserlautern	Rheinland-Pfalz Germany	67661	X
FOL Ireland, Ltd.		Fruit of the Loom	Ballymacarry Buncrana Co.	Donegal	Ireland		X
FOL Shenzhen Company Limited	100%	Fruit of the Loom	One Fruit of the Loom Drive	Bowling Green	KY	42103	X
Fontaine Commercial Trailer, Inc.	100%	Marmon	430 Letson Road	Haleyville	AL	35565	X
Fontaine Engineered Products, Inc.	100%	Marmon	3515 Industrial Way	Jasper	AL	35501	X
Fontaine Fifth Wheel (Canada) Inc.	100%	Marmon	935 Matheson Blvd E	Mississauga	Ontario, Canada	L4W 2R7	X
Fontaine Fifth Wheel Company	100%	Marmon	7574 Commerce Circle	Trussville	AL	35173	X
Fontaine Floor Technologies		Marmon	3515 Industrial Way	Jasper	AL	35501	X
Fontaine Heavy-Haul		Marmon	5398 US Highway 11	Springville	AL	35146	X
Fontaine Intermodel		Marmon	3515 Industrial Way	Jasper	AL	35501	X
Fontaine International Europe GmbH		Marmon	Expo Plaza 3	Hanover	Germany	30539	X
Fontaine International, Inc.		Marmon	5000 Grantswood Rd, Suite 200	Irondale	AL	35210	X
Fontaine Military Products		Marmon	3300 Industrial Way	Jasper	AL	35501	X
Fontaine Modification Company	100%	Marmon	P.O. Box 565	Mt. Holly	NC	28120	X
Fontaine PartSource		Marmon	3110 Industrial Parkway	Jasper	AL	35501	X
Fontaine Specialized, Inc.		Marmon	5398 US Highway 11	Springle	AL	35146-6306	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Fontaine Spray Suppression Company	100%	Marmon	784 Bill Jones Industrial Dr.	Springfield	TN	37172	X
Fontaine Trailer Company	100%	Marmon	430 Letson Road	Haleyville	AL	35565	X
Fontaine Truck Equipment Company	100%	Marmon	2490 Pinson Valley Pkwy.	Birmingham	AL	35217	X
Fontana Wood Products, Inc.	100%	Clayton Homes	10712 Live Oak Ave	Fontana	CA	92337	X
Foodstar (China) Investments Company Limited	26.86%	Kraft Heinz	Rm.416, No.47, Pailouxiang, Gulou District	Nanjing, Jiangsu	China	210029	X
Foodstar (Shanghai) Foods Co. Ltd.	26.86%	Kraft Heinz		Shanghai	China		X
Foodstar Holdings Pte Ltd.	26.86%	Kraft Heinz	50 Collyer Quay, 09-01 Oue Bayfront	Singapore	Singapore	049321	X
Footwear Investment Company	100%	Justin Brands	P.O. Box 548	Fort Worth	TX	76101	X
Forest River Holdings, Inc.	100%	Forest River, Inc.	55470 County Road 1	Elkhart	IN	46514	X
Forest River Housing, Inc.	100%	Forest River, Inc.	55470 CR 1, P.O. Box 3030	Elkhart	IN	46515-3030	X
Forest River Manufacturing, LLC	100%	Forest River, Inc.	55470 County Road 1	Elkhart	IN	46514	X
Forest River Warranty Company		Forest River, Inc.	55470 CR 1, P.O. Box 3030	Elkhart	IN	46515-3030	X
Forest River, Inc.	100%	Forest River, Inc.	1440 Kiewit Plaza	Omaha	NE	68131	X
Forester Dialysis, LLC	17.95%	DaVita Healthcare	4015 Davison Road	Burton	MI	48509	X
Försäkringsaktiebolaget Bostadsgaranti	100%	National Indemnity	P.O. Box 3171	Stockholm	Sweden	103 63	X
Forsakringsaktiebolaget Viator	14.65%	American Express	Magnus Ladulasgatan 5	Stockholm	Sweden	118 65	X
Fort Dialysis, LLC	17.95%	DaVita Healthcare	1551 Wewatta Street	Denver	CO	80202	X
Foss Dialysis, LLC	17.95%	DaVita Healthcare	2550 S Telshor Blvd	Las Cruces	NM	88011	X
Foundation for Fiduciary Studies, Inc.	12.07%	Moody's					X
Four Star Beverage Company, Inc.	11.4%	Phillips 66	600 Plaza Office Building	Bartlesville	OK	74004	X
Four Star Holding Company, Inc.	11.4%	Phillips 66	120 East 87TH Street #R14K	New York	NY	10128	X
Fourth Berkshire Properties, LLC	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
Foxfire Apartments Limited Dividend Housing Association, LLC	99.99%	National Indemnity	435 Peppertree Circle	Jackson	MI	49203	X
Frames, Doors & Hardware, Inc. (d/b/a for L&W Supply Corporation)	29.95%	USG	33026 Capitol Street	Livonia	MI	48150	X

BERKSHIRE HATHAWAY INC. (10% and greater)

France/Scott Fetzer Company	100%	Scott Fetzer	2268 Fairview Blvd.	Fairview	TN	37062	X
FRC West Property L.L.C.	14.65%	American Express	20022 N 31st Avenue	Phoenix	AZ	85027	X
Free Time	100%	BH Media	507 South Shore Road	Marmora	NJ	08223	X
Freedom Warehouse Corp.	100%	Clayton Homes		Las Vegas	NV		X
Freehold Artificial Kidney Center, LLC	17.95%	DaVita Healthcare	300 Craig Road	Manalapan	NJ	07726	X
Freemont Dialysis, LLC	17.95%	DaVita Healthcare	39355 California St	Fremont	CA	94538	X
Freeportbay Dialysis, LLC	17.95%	DaVita Healthcare	1842A S West Avenue	Freeport	IL	61032	X
FreightWise, Inc.	100%	BNSF Railway	2500 Lou Menk. Drive, 3rd Fl.	Fort Worth	TX	76131-2828	X
Fremont Dialysis, LLC	17.95%	DaVita Healthcare	42886 Woodward Avenue	Bloomfield Hills	MI	48304	X
Freo Group Limited	100%	Marmon	Jakovich Centre, 4 McGrath Rd	Henderson	Western Australia (WA)	6166	X
Freo Group Pty Ltd.	90%	Marmon	Lot 2 Suttor Development Road	Nebo	Queensland, Australia	4742	X
Frontier Ford (d/b/a for FFBH Motors, LLC)	93%	Berkshire Hathaway Automotive	3701 Stevens Creek Blvd	Santa Clara	CA	95051	X
Frontier Yarns, LLC	45.3%	Russell Corporation	1823 Boone Trail Road	Sanford	NC	27330	X
Fruit of the Loom Benelux, S.A.		Fruit of the Loom	Skaldenstraat 121, Bldg. A4	Gent	Belgium	9042	X
Fruit of the Loom Brands Limited	100%	Fruit of the Loom	Carndonagh Business Centre, Carndonagh Co.	Donegal	Ireland		X
Fruit of the Loom Canada, Inc.	100%	Fruit of the Loom	195 The West Mall, Ste 1010	Etobicoke	Ontario Canada	M9C 5K1	X
Fruit of the Loom Caribbean, Inc.		Fruit of the Loom	Royal Industrial Park Edificio I Local 3 Corr 869 Km 1.5	Barrios Palmas	Cataño, Puerto Rico	00962	X
Fruit of the Loom de Mexico, S.A. de C.V.	100%	Fruit of the Loom	Av. Diagonal Patriotismo #1 - 4o.piso	Col. Hipodromo Condesa	Mexico	06170	X
Fruit of the Loom Direct, Inc.	100%	Fruit of the Loom	755 Lee Street	Alexander City	AL	35010	X
Fruit of the Loom Distribution Ltd.		Fruit of the Loom	Ballymacarry Buncrana Co.	Donegal	Ireland		X
Fruit of the Loom France SARL	100%	Fruit of the Loom	112 Ter, Rue Cardinet	Paris	France	75017	X
Fruit of the Loom India Private Limited	100%	Fruit of the Loom		Pune	India		X
Fruit of the Loom International Ltd.	100%	Fruit of the Loom	Ballymacarry Buncrana Co.	Donegal	Ireland		X
Fruit of the Loom Investments Ltd.	100%	Fruit of the Loom	Fruit of the Loom House Halesfield 10G	Telford	England	TF7 4QP	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Fruit of the Loom Italy, S.R.L.	100%	Fruit of the Loom	Via Mascheroni 5	Milan	Italy	20145	X
Fruit of the Loom Latin America, S.A. de C.V.	100%	Fruit of the Loom		Santa Ana	El Salvador		X
Fruit of the Loom Ltd.	100%	Fruit of the Loom	Fruit of the Loom House Halesfield 10G	Telford	Shropshire England	TF7 4QP	X
Fruit of the Loom Servicios S.A.	100%	Fruit of the Loom			Mexico		X
Fruit of the Loom Spain, S.A.	100%	Fruit of the Loom	Avda, Diagonal 427-429 Floor 6, Room 3	Barcelona	Spain	08036	X
Fruit of the Loom Texas, Inc.		Fruit of the Loom	One Fruit of the Loom Drive	Bowling Green	KY	42103	X
Fruit of the Loom Textile SARL a AU		Fruit of the Loom			Morocco		X
Fruit of the Loom Trading Company	100%	Fruit of the Loom	One Fruit of the Loom Drive	Bowling Green	KY	42103	X
Fruit of the Loom Vietnam Company Limited	100%	Fruit of the Loom		Quang Xuong District	Province, Vietnam		X
Fruit of the Loom, Inc.	100%	Fruit of the Loom	1440 Kiewit Plaza	Omaha	NE	68131	X
Fruit of the Loom, Inc.	100%	Fruit of the Loom	One Fruit of the Loom Drive	Bowling Green	KY	42103	X
FSR-SCI (Societe Civile Immobiliere)	100%	FlightSafety	BP 25, Zone d'Aviation d'Affaires Bldg 404, Aeroport du Bourget	Le Bourget CEDEX	France	93352	X
FSVT Motors, LLC	78%	BH Auto	1550 E Missouri Ave Suite 300	Phoenix	AZ	85014	X
FTL Japan KK	100%	Fruit of the Loom	Asahi Bldg. 6F, 1-11-2 Ebisu	Shibuya-ku	Tokyo, Japan	150-0013	X
FTL Regional Sales Company, Inc.	100%	Fruit of the Loom	One Fruit of the Loom Drive	Bowling Green	KY	42103	X
FTL Valle Hermoso S.A. de C.V.	100%	Fruit of the Loom		Tamaulipas	Mexico		X
Fullerton Dialysis Center, LLC	17.95%	DaVita Healthcare	3214 Yorba Linda Blvd	Fullerton	CA	92831	X
Fun Express LLC	100%	Oriental Trading	10525 J Street	Omaha	NE	68127	X
Fundacion Heinz	N/A	Kraft Heinz		Caracas	Venezuela		X
Future Metals LLC	100%	Marmon	10401 State Street	Tamarac	FL	33321	X
GAFVT Motors, LLC	96%	BH Auto	2970 Old Norcross Road	Duluth	GA	30096	X
Gang-Nail Do Brasil Industria E Comercio LTDA	70%	MiTek	Etr Isabel,sta, 4555 - Jd Nova Itaquá	Itaquaquecetuba - São Paulo	Brasil		X
Gang-Nail Philippines, Inc.	100%	MiTek	GF J&L Bldg. 251-267 EDSA	Mandaluyong	Philippines		
GANVT Motors, LLC	96%	BH Auto	2555 Pleasant Hill Road	Duluth	GA	30096	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Garan Buena Vista, S.A. de CV	100%	Garan	Zoli Zip Buena Vista, Edif. N-1, Carretera a Tegucigalpa En frente de Hondulit	Villanueva	Honduras, C.A		X
Garan Central America Corp.	100%	Garan	200 Mts Este de la Entrada de Cenada Frente Predio CCT	Barreal de Heredia Costa Rica	Central America		X
Garan De El Salvador, S.A. de CV	100%	Garan	Export Salva Free Zone, km 24 Carretera a Santa Ana, Edif. 5 Lourdes	Colon	La Libertad El Salvador, C.A.		X
Garan De Honduras, S.A. de CV	100%	Garan	Zoli Zip Buena Vista, Edif. N-1, Carretera a Tegucigalpa En frente de Hondulit	Villanueva	Honduras, C.A		
Garan Export Corp.		Garan	521 Fifth Avenue	New York	NY	10175	X
Garan Manufacturing Corp.	100%	Garan	P.O. Box 100	Starkville	MS	39759	X
Garan San Jose, S.A. de CV	100%	Garan	Zoli San Jose, Segundo Anillo Periferico, Edif. 5 y 6	San Pedro Sula	Honduras, C.A		X
Garan Services Corp.	100%	Garan	1 Commerce Center, Ste 717	Wilmington	DE	19801	X
Garan, Asia, Ltd.	100%	Garan	9 Wing Hong St	Cheung Sha Wan	Hong Kong		X
Garan, Incorporated	100%	Garan	350 Fifth Avenue, 19th Floor	New York	NY	10118	X
Gardenside Dialysis, LLC	17.95%	DaVita Healthcare	1619 W McClain Avenue	Scottsburg	IN	47170	X
Garfield Place Partners LP	100%	National Indemnity	1025 Park Avenue	St. Louis	MO	63103	X
Garfield Sacred Heart Housing, LLC	99.99%	National Indemnity	10750 E Honey Mesquite Drive	Scottsdale	AZ	85262	X
Garland BBQ Company	26.86%	Kraft Heinz	2340 Forest Lane	Garland	TX	75042	X
Garner Dialysis, LLC	17.95%	DaVita Healthcare	701 Washington Avenue	Iowa Falls	IA	50126	X
Garrett Dialysis, LLC	17.95%	DaVita Healthcare	888 Memorial Drive	Oakland	MD	21550	X
Gateway Underwriters Agency, Inc.	80%	Berkshire Hathaway	2458 Old Dorsett Road, Suite 110	Maryland Heights	MO	63043	X
GAWVT Motors, LLC	96%	BH Auto	4525 Nelson Brogdon Blvd	Buford	GA	30518	X
GBT III, B.V.	14.65%	American Express	Hoogoorddreef 15 Atlas Arena	Amsterdam	Netherlands	1101 BA	X
GC Transition Limited		Marmon	Belfast Road	Carrickfergus	UK	BT38 8BG	X
GCI Fund XVIII, LP	99.99%	National Indemnity	1414 E. Primrose St., Ste 100	Springfield	MO	65804	X
GCI Fund XXVI, LP	99.99%	National Indemnity	1414 E. Primrose St., Ste 100	Springfield	MO	65602	X
GCL Strategic Investments, Inc.		General Re Life	695 E. Main Street	Stamford	CT	06901	X
Ventures, Inc. d/b/a GEC Investment Managers)	100%	GEICO	One GEICO Plaza	Washington	DC	20076	X

BERKSHIRE HATHAWAY INC. (10% and greater)

GEICO Advantage Insurance Company	100%	GEICO	One GEICO Plaza	Washington	DC	20076	X
GEICO Casualty Company	100%	GEICO	5260 Western Avenue	Chevy Chase	MD	20815	X
GEICO Choice Insurance Company	100%	GEICO	One GEICO Plaza	Washington	DC	20076	X
GEICO Corporation	100%	GEICO	5260 Western Avenue	Chevy Chase	MD	20815	X
GEICO County Mutual Insurance Company	100%	GEICO	4201 Spring Valley Rd	Dallas	TX	75244	X
GEICO Financial Services, Gmbh	100%	GEICO	Rossertstr. 12	Eschborn	Germany	65760	X
GEICO General Insurance Company	100%	GEICO	5260 Western Avenue	Chevy Chase	MD	20815	X
GEICO Indemnity Company	100%	GEICO	5260 Western Avenue	Chevy Chase	MD	20815	X
GEICO Insurance Agency, Inc.	100%	GEICO	One GEICO Plaza	Washington	DC	20076	X
GEICO Philanthropic Foundation		GEICO	5260 Western Avenue	Chevy Chase	MD	20815	X
GEICO Products, Inc.	100%	GEICO	5260 Western Avenue	Chevy Chase	MD	20815	X
GEICO Secure Insurance Company	100%	GEICO	One GEICO Plaza	Washington	DC	20076	X
Gemini Leasing Ltd.	14.65%	American Express	PO Box 309, Ugland House	Grand Cayman	Cayman Islands	KY1-1104	X
Gem-State Acoustical & Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	1249 Boeing Street	Boise	ID	83705	X
Gen Plus Managers, Inc.		General Re	695 E. Main Street	Stamford	CT	06904	X
Gen Re Asset Finance, Inc.		General Re	630 Fifth Avenue	New York	NY	10111	X
Gen Re Beirut s.a.l. offshore	100%	General Re	Beirut Central District, P.O. Box 11-7742	Beirut	Lebanon	2014-5401	X
Gen Re Capital Consultants, Inc.		General Re	695 E. Main Street	Stamford	CT	06904	X
Gen Re Intermediaries Corporation	100%	General Re	120 Long Ridge Road	Stamford	CT	06902	X
Gen Re LifeHealth (d/b/a for General Re Life Corporation)	100%	General Re	695 East Main Street	Stamford	CT	06904	X
Gen Re Long Ridge, LLC	100%	General Re	120 Long Ridge Road	Stamford	CT	06902	X
Gen Re México, S.A.		General Re	Paseo de la Reforma 350, 6º Piso Edificio Torre del Angel	Col. Juárez	Mexico	06600	X
Gen Re Services UK Limited	100%	General Re	Corn Exchange, 55 Mark Lane	London	England	EC3R 7NE	X
Gen Re Support Services Mumbai Private Limited	99.9%	General Re	Unit 516,215 Atrium, Andheri Kurla Road, Andheri	Mumbai, Maharashtra	India		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Gen Re Warsaw Sp. z.o.o.	100%	General Re	Metropolitan, Pl. Pilsudskiego 2	Warsaw	Poland	00-073	X
Gendon Polymer Services Inc.	100%	Marmon	5 Marconi Court	Bolton	Ontario, Canada	L7E 1H3	X
General & Cologne Re Brasil Ltda.		General Re		Sao Paulo	Brazil		X
General Cable Industries Limited		Marmon	5 Hopkinson Way West Portway Industrial Estate	Andover, Hampshire	UK	SP10 3LF	X
General Re Asset Holdings, Inc.		General Re	630 Fifth Avenue	New York	NY	10111	X
General Re Asset Investments (I), Inc.		General Re	630 Fifth Avenue	New York	NY	10111	X
General Re Asset Investments (II), Inc.		General Re	630 Fifth Avenue	New York	NY	10111	X
General Re Asset Investments (III), Inc.		General Re	630 Fifth Avenue	New York	NY	10111	X
General Re Bannockburn, Inc.	100%	General Re					X
General Re Compania de Reaseguros, S.A.	100%	General Re		Montevideo	Uruguay		X
General Re Corporate Finance, Inc.		General Re	630 Fifth Avenue	New York	NY	10111	X
General Re Corporation	100%	General Re	695 E. Main Street	Stamford	CT	06904	X
General Re Financial Products (Canada) Limited		General Re	100 King W	Toronto	Ontario, Canada	M5J 2N7	X
General Re Financial Products (Japan) Inc.		General Re	Toranomon Waiko Bldg 9F 5-12-1 Toranomon	Minato-ku	Tokyo Japan		X
General Re Financial Products Corporation	100%	General Re	Rockefeller Center 630 Fifth Avenue, Suite 450	New York	NY	10111	X
General Re Funding Corporation		General Re	630 Fifth Avenue, Suite 450	New York	NY	10111	X
General Re Investment Holdings Corporation		General Re	630 Fifth Avenue, Suite 450	New York	NY	10111	X
General Re Life Corporation	100%	General Re	120 Long Ridge Road	Stamford	CT	06902	X
General Re New England Asset Management, Inc.	100%	General Re	Pond View Corporate Center 76 Batterson Park Rd # 2	Farmington	CT	06032	X
General Re Securities Corporation		General Re	695 E. Main Street	Stamford	CT	06904	X
General Re Services Corporation		General Re	695 E. Main Street	Stamford	CT	06904	X
General Reinsurance Africa Ltd.	100%	General Re	3rd Fl., Block A, West Quay Office Block, West Quay Road V&A Waterfront	Cape Town	South Africa	8000	X
General Reinsurance AG	100%	General Re	Theodor-Heuss-Ring 11	Cologne	Germany	50668	X
General Reinsurance AG Escritorio de Representacao no Brasil Ltda.	99.9%	General Re		Sao Paulo	Brazil		X

BERKSHIRE HATHAWAY INC. (10% and greater)

General Reinsurance Australia Ltd.	100%	General Re	Angel Place, Level 24, 123 Pitt Street	Sydney	Wales, Australia	ACN 008	X
General Reinsurance Corporation	100%	General Re	120 Long Ridge Road	Stamford	CT	06902	X
General Reinsurance Life Australia Ltd.	100%	General Re	Angel Place, Level 24, 123 Pitt Street	Sydney	Wales, Australia	ACN 008	X
General Reinsurance Life UK Limited		General Re	Corn Exchange, 55 Mark Lane	London	England	EC3R 7NE	X
General Reinsurance Mexico, S.A.	100%	General Re		Juarez	Mexico		X
General Star Indemnity Company	100%	General Re	695 E. Main Street	Stamford	CT	06904	X
General Star Management Company	100%	General Re	695 E. Main Street	Stamford	CT	06904	X
General Star National Insurance Company	100%	General Re	695 E. Main Street	Stamford	CT	06904	X
GeneralCologne Life Re (Barbados) Ltd.		General Re		Barbados			X
GeneralCologne Re Beirut s.a.l.		General Re	Sami Solh Street Badaro Trade Centre, 7th Fl.	Beirut	Lebanon	1106-2010	X
GeneralCologne Re Capital Fund Managers (Ireland) Limited		General Re	La Touche House, I.F.S.C.	Dublin	Ireland		X
GeneralCologne Re Capital GmbH		General Re	Clever Str. 13-15	Cologne	Germany	50668	X
GeneralCologne Re Capital Services GmbH		General Re	Answers St. 13-15	Cologne	Germany	50668	X
GeneralCologne Re Ibérica Corredores de Reaseguros S.A.		General Re	Fortuny, 6.- 2º. Ala Sur	Madrid	Spain	28010	X
GeneralCologne Re Management Ltd.		General Re		Sydney	Wales, Australia	2000	X
Genesis Insurance Company	100%	General Re	695 E. Main Street	Stamford	CT	06904	X
Genesis Management and Insurance Services Corporation	100%	General Re	120 Long Ridge Road	Stamford	CT	06902	X
Genesis Professional Liability Managers, Inc.		General Re	Chagrin Richmond Plaza 25550 Chagrin Blvd., Suite 300	Beachwood	OH	44122	X
GenRe Gisbourne LLC	100%	General Re					X
GenRe Medallion LLC	100%	General Re					X
GenRe Park Holdings LLC	100%	General Re					X
GenRe South Ridge Partners L.P.		General Re	630 Fifth Avenue, Suite 450	New York	NY	10111	X
Georgia Monomers Co., LLC	45%	Shaw	One Columbia Nitrogen Rd	Augusta	GA	30903	X
Gering Courier (<i>Western Nebraska Newspapers, Inc. d/b/a Gering Courier</i>)	100%	BH Media	1405 Broadway	Scottsbluff	NE	69361	X

BERKSHIRE HATHAWAY INC. (10% and greater)

GES Equipment Service GmbH	45%	Marmon	Pfälzer Straße 76	Oberhausen	Germany	46145	X
Getz Bros. & Co., Inc.		Marmon	No. 4 Sungei Kadut Crescent	Singapore	Singapore	728688	X
Geyser Dialysis, LLC	17.95%	DaVita Healthcare	2625 N Ankeny Blvd	Ankeny	IA	50023	X
Giles Industries, Inc.	100%	Clayton Homes	405 S. Broad Street	New Tazewell	TN	37825	X
GiveLife Dialysis, LLC	17.95%	DaVita Healthcare	18000 E Warren Ave, Suite 100	Detroit	MI	48224	X
Givhan Dialysis, LLC	17.95%	DaVita Healthcare	526 Broad Street	Sumter	SC	29150	X
Glacier Dialysis, LLC	17.95%	DaVita Healthcare	324 FM 1960 RD, Ste 104	Houston	TX	77073	X
Glassland Dialysis, LLC	17.95%	DaVita Healthcare	3901 S Western Ave.	Los Angeles	CA	90062	X
Global Aerospace Underwriters Limited	100%	National Indemnity	Fitzwilliam House, 10 St. Mary Axe	London	England	EC3A 8EQ	
Global Aerospace Underwriting Managers (Canada) Limited	100%	National Indemnity	100 Renfrew Dr, Suite 200	Markham	Ontario, Canada	L3R 9R6	X
Global Aerospace Underwriting Managers Limited	60%	National Indemnity	Fitzwilliam House, 10 St. Mary Axe	London	England	EC3A 8EQ	X
Global Aerospace Underwriting Managers USA, Inc.	100%	National Indemnity	51 JFK Parkway	Short Hills	NJ	07078	X
Global Aerospace, Inc.	100%	National Indemnity	51 JFK Parkway	Short Hills	NJ	07078	X
Global Cranes Pty Ltd.	100%	Marmon	Unit 3/57 Hayward Street	Stafford	Queensland, Australia	4153	X
Global Estimating Software Ltd.		MiTek			Hong Kong		X
Global Limited	100%	National Indemnity					
Global Nominees Limited	14.65%	American Express	135 BishopsGate	London	UK	EC2M 3UR	X
Global Registration Services Limited	11.11%	VeriSign Inc.	27-28 Clements Lane	London	UK	EC4N 7AE	X
Global Resolution, Inc.		General Re	214 Carnegie Center, Suite 112	Princeton	NJ	08540	X
GMVT Motors, LLC	81%	BH Auto	972 Towne Center Blvd	Sanford	FL	32771	X
GoDanRiver.com	100%	BH Media	700 Monument Street	Danville	VA	24541	X
Golden Bear Travel, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Golden Circle Limited	26.86%	Kraft Heinz	260 Earnshaw Rd	Northgate	Queensland, Australia	4013	X
Golden Dialysis, LLC	17.95%	DaVita Healthcare	12001 Elam Road	Balch Springs	TX	75180	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Golden Sun Bear, LLC	17.95%	DaVita Healthcare	13083 N Telecom Pkwy	Temple Terrace	FL	33637	X
Goldendale Dialysis, LLC	17.95%	DaVita Healthcare	1200 Brookstone Centre Pkwy, Ste 111	Columbus	GA	31904	X
Goliad Dialysis, LLC	17.95%	DaVita Healthcare	251 Lathrop Way	Sacramento	CA	95815	X
Good Framing SRO	100%	Larson Juhl	Factory 117, Domoradice	Cesky Krumlov	Bohemian Czech Republic	381 01	X
Goodwood Holdings Limited	26.86%	Kraft Heinz	Level 3, Quay Park Health, 68 Beach Rd	Auckland	New Zealand		X
Government Employees Financial Corporation	100%	GEICO	7551 West Alameda Avenue	Denver	CO	80217	X
Government Employees Insurance Company	100%	GEICO	5260 Western Avenue	Chevy Chase	MD	20815	X
GPVN Motors, LLC	75%	BH Auto	1401 W. State Highway 114	Grapevine	TX	76051	X
GPVT Limited Partnership	100%	BH Auto	350 N. Saint Paul St. Ste 2900	Dallas	TX	75201	X
Grand Home Dialysis, LLC	17.95%	DaVita Healthcare	14674 West Mountain View Blvd	Surprise	AZ	85374	X
Grand Island Independent Real Estate, LLC		BH Media	1314 Douglas Street	Omaha	NE	68102	X
Grand Island Publishing Company, Inc.		BH Media	422 W. 1st Street	Grand Island	NE	68802	X
Grand Prairie Ford, LLC <i>d/b/a Grand Prairie Ford</i>	81%	BH Auto	701 East Palace Parkway	Grand Prairie	TX	75050	X
Grapevine Ford (<i>d/b/a for BFVT Motors, LLC</i>)	66%	Berkshire Hathaway Automotive	801 E State Highway 114	Grapevine	TX	76051	X
Grapevine Imports, LLC	81%	BH Auto	701 E State Highway 114	Grapevine	TX	76051	X
Grapevine Lincoln		Berkshire Hathaway Automotive	801 E State Highway 114	Grapevine	TX	76051	X
Graver Technologies LLC	100%	Marmon	200 Lake Drive	Glasgow	DE	19702	X
Graver Water Systems LLC	100%	Marmon	675 Central Avenue, Suite 3	New Providence	NJ	07974	X
GRC Realty Corporation	100%	General Re	695 Main Street	Stamford	CT	06901	X
GRCBA, LLC		National Reinsurance					X
GRD Corporation		General Re	1105 North Market Street	Wilmington	DE	19801-1216	X
GRD Holdings Corporation	100%	General Re		Stamford	CT		X
Great Dialysis, LLC	17.95%	DaVita Healthcare	4717 Medical Center Drive	McKinney	TX	75069	X
Great Lakes Gypsum Supply (<i>d/b/a for L&W Supply Corporation</i>)	29.95%	USG	2318 Cass Road	Traverse City	MI	49684	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Greater Las Vegas Dialysis LLC	17.95%	DaVita Healthcare	2300 McDaniel Street	North Las Vegas	NV	89030	X
Greater Los Angeles Dialysis Centers, LLC	17.95%	DaVita Healthcare	3986 S Figueroa Street	Los Angeles	CA	90037	X
Green Desert Dialysis, LLC	17.95%	DaVita Healthcare	2110 E Flamingo Road # 108	Las Vegas	NV	89119	X
Greene County Dialysis, LLC	17.95%	DaVita Healthcare	544 US Highway 43	Eutaw	AL	35462	X
Greene County Record		BH Media	P.O. Box 66	Stanardsville	VA	22973	X
Greenleaf Dialysis, LLC	17.95%	DaVita Healthcare	4960 W Newberry Rd, Ste 280	Gainesville	FL	32607	X
Greensboro Monthly	100%	BH Media	418 N. Marshall St.	Winston-Salem	NC	27103	X
Greensboro News & Record, LLC	100%	BH Media	200 E. Market St.	Greensboro	NC	27401	X
Greenspoint Dialysis, LLC	17.95%	DaVita Healthcare	701 Brazos Street	Austin	TX	78701	X
Greenwood Dialysis, LLC	17.95%	DaVita Healthcare	1345 N Lansing Avenue	Tulsa	OK	74106	X
Gretna Breeze (d/b/a for Suburban Newspapers, Inc.)	100%	BH Media	216 Enterprise Dr, PO Box 296	Gretna	NE	68028	X
GRF Services Limited	100%	General Re	Corn Exchange, 55 Mark Lane	London	UK	EC3R 7NE	X
Griffin Dialysis, LLC	17.95%	DaVita Healthcare	8243 E Stockton Blvd	Sacramento	CA	95828	X
Griffs Dialysis, LLC	17.95%	DaVita Healthcare	5660 Nimitz Parkway	South Bend	IN	46628	X
GR-NEAM Limited	100%	General Re	The Oval Block 3, Shelbourne Road	Ballsbridge, Dublin	Ireland		X
Grove Dialysis, LLC	17.95%	DaVita Healthcare	391 Suwannee Trail Street	Bowling Green	KY	42103	X
GTR Rental LLC	100%	XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	X
Guangzhou United Logistics Company Limited	26.86%	Kraft Heinz	Yung Sha Tai Road, Baiyun District	Guangzhou, Guangdong	China	510540	X
GuardCo, Inc.	100%	National Indemnity	24 South River Street	Wilkes-Barre	PA	18703	X
Guntersville Dialysis, LLC	17.95%	DaVita Healthcare	4451 Parliament Pl, Ste M	Lanham	MD	20706	X
Gwinnett Place Ford (d/b/a for GAFVT Motors, LLC)	96%	BH Auto	3230 Satellite Boulevard	Duluth	GA	30096	X
Gwinnett Place Lincoln (d/b/a for GAFVT Motors, LLC)	96%	BH Auto	3230 Satellite Boulevard	Duluth	GA	30096	X
Gwinnett Place Nissan (d/b/a for GANVT Motors, LLC)	96%	BH Auto	2555 Pleasant Hill Road	Duluth	GA	30096	X
Gypsum Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	29 W. Lake Street, P.O. Box 3695	Salinas	CA	93912	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Gypsum Transportation Limited	29.95%	USG	Belvedere Building 69, Pitts Bay Road, Pembroke	Hamilton	Bermuda	HM 08	X
H. H. Brown Retail, Inc.		HH Brown	124 W. Putnam Avenue	Greenwich	CT	06830	X
H. H. Brown Shoe Co. Canada		HH Brown	1857 Rogers Road	Perth	Ontario Canada	K7H 3E8	X
H. H. Brown Shoe Company, Inc.	100%	HH Brown	124 W. Putnam Avenue	Greenwich	CT	06830	X
H. H. Brown Shoe Technologies, LLC	100%	HH Brown	124 W. Putnam Avenue	Greenwich	CT	06830	X
H. J. Heinz 2000 Pension Trust Ltd.	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	
H. J. Heinz Asset Leasing Limited	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	X
H. J. Heinz B.V.	26.86%	Kraft Heinz	Kantorenpark De Breul Arnhemse Bovenweg 160 - 178	Zeist	Netherlands	3708 AH	X
H. J. Heinz Belgium S.A.	26.86%	Kraft Heinz	Campus Blairon 700	Turnhout	Belgium	2300	X
H. J. Heinz Company (Ireland) Limited	26.86%	Kraft Heinz	Stradbrook Hse Stradbrook Rd	Blackrock, Dublin	Ireland		X
H. J. Heinz Company (New Zealand) Limited	26.86%	Kraft Heinz	513 King Street North	Hastings	New Zealand		X
H. J. Heinz Company Australia Limited	26.86%	Kraft Heinz	105 Camberwell Road	Hawthorn East, Victoria	Australia	3123	X
H. J. Heinz Company Foundation	26.86%	Kraft Heinz	600 Grant Street	Pittsburgh	PA	15219	X
H. J. Heinz Company Limited	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes	UK	UB4 8AL	X
H. J. Heinz Company of Canada LP	26.86%	Kraft Heinz	148 Eire Street South	Leamington	Ontario, Canada	N8H 3W8	X
H. J. Heinz Company of Canada Ltd.	26.86%	Kraft Heinz	400-90 Sheppard Ave E	North York	Ontario, Canada	M2N 7K5	X
H. J. Heinz Company, L.P.	26.86%	Kraft Heinz	357 6th Ave	Pittsburgh	PA	15222	X
H. J. Heinz Corporation II	26.86%	Kraft Heinz	1 PPG Place, Suite 3100	Pittsburgh	PA	15222	X
H. J. Heinz CR/SR a.s.	26.86%	Kraft Heinz	Pocernicka 96, 10-Malešice	Prague	Czech Republic	10803	X
H. J. Heinz European Holding B.V.	26.86%	Kraft Heinz	Arnhemse Bovenweg 160-178	Zeist, Utrecht	Netherlands	3708 AH	X
H. J. Heinz Finance Company	26.86%	Kraft Heinz	600 Grant Street	Pittsburgh	PA	15219	X
H. J. Heinz Finance UK PLC	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	X
H. J. Heinz Foods Spain S.L.U.	26.86%	Kraft Heinz	Ctra. Rincón de Soto-Corella, KM 2.8	Alfaro, La Rioja	Spain	26540	X
H. J. Heinz Foods UK Limited	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	X

BERKSHIRE HATHAWAY INC. (10% and greater)

H. J. Heinz France S.A.S.	26.86%	Kraft Heinz	Tour Atlantique 1, Place de la Pyramide	Puteaux	France	92800	X
H. J. Heinz Frozen & Chilled Foods Limited	26.86%	Kraft Heinz	Unit 23 Britannia Indus. Estate Leagrave Road	Luton	UK	LU3 1RJ	X
H. J. Heinz Global Holding B.V.	26.86%	Kraft Heinz	Arnhemsebovenweg 160 -178	Zeist, Utrecht	Netherlands	3708 AH	X
H. J. Heinz GmbH	26.86%	Kraft Heinz	Erkrather Straße 228B	Dusseldorf	Germany	40233	X
H. J. Heinz Group B.V.	26.86%	Kraft Heinz	Arnhemse Bovenweg 160-178	Ziest	Netherlands	3708AH	X
H. J. Heinz Holding B.V.	26.86%	Kraft Heinz	Stationsstraat 50	Elst	Netherlands	6662 BC	X
H. J. Heinz Investment Cooperatief U.A.	26.86%	Kraft Heinz	Arnhemse Bovenweg 160-178	Ziest	Netherlands	3708AH	X
H. J. Heinz Ireland Holdings	26.86%	Kraft Heinz	Stradbrook House, Stradbrook Road, Blackrock Co.	Dublin	Ireland	216410	X
H. J. Heinz Manufacturing Belgium BVBA	26.86%	Kraft Heinz	Bleukenlaan 12	Turnhout	Belgium	2300	X
H. J. Heinz Manufacturing Ireland Limited	26.86%	Kraft Heinz	Finnabair Industrial Estate	Dundalk, Louth	Ireland		X
H. J. Heinz Manufacturing Spain S.L.U.	26.86%	Kraft Heinz	Avenida De Corella, 0 km 2 8	Rincón de Soto	Spain	26550	X
H. J. Heinz Manufacturing UK Limited	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	X
H. J. Heinz Nederland B.V.	26.86%	Kraft Heinz	Arnhemse Bovenweg 160-178	Ziest	Netherlands	3708AH	X
H. J. Heinz Netherlands Holdings C.V.	26.86%	Kraft Heinz	Arnhemse Bovenweg 160-178	Ziest	Netherlands	3708AH	X
H. J. Heinz Nigeria Limited	26.86%	Kraft Heinz	Victoria Island	Lagos	Nigeria		X
H. J. Heinz Pension Trust Limited	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	X
H. J. Heinz Polska S.A.	26.86%	Kraft Heinz	PUDLISZKI FABRYCZNA 7	Krobia	Poland	63-840	X
H. J. Heinz Supply Chain Coöperatief U.A.	26.86%	Kraft Heinz	Arnhemse Bovenweg 160-178	Ziest	Netherlands	3708AH	X
H. J. Heinz Supply Chain Europe B.V.	26.86%	Kraft Heinz	Kantorenpark De Breul Arnhemse Bovenweg 160 - 178	Zeist	Netherlands	3708 AH	X
H. J. Heinz Trust Limited	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	X
H. J. Justin & Sons, Inc.		Justin Brands	610 W. Daggett Avenue	Fort Worth	TX	76104	X
Hagerstown Dialysis, LLC	17.95%	DaVita Healthcare	1136 Opal Ct	Hagerstown	MD	21740	X
Halex/Scott Fetzer Company	100%	Scott Fetzer	23901 Aurora Road	Cleveland	OH	44146	X
Hall of Fame Paint Supply Inc.		Benjamin Moore	4205 Hills & Oaks Road	Canton	OH	44708	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Hallmark Sweet, Inc.	100%	Richline Group	49 Pearl Street	Attleboro	MA	02703	X
Hanford Dialysis, LLC	17.95%	DaVita Healthcare	900 North Douty Street	Hanford	CA	93230	X
Hannigan's Paint & Décor	82.5%	Benjamin Moore	1665 32 Avenue NE	Calgary	Alberta, Canada	T2E 7Z5	X
Hanta Co., Ltd.		Iscar	3-15-15 Honjyo Yahatanishi-ku	Kitakyushu, Fukuoka	Japan	807-0801	X
Harbor Payments Corporation	14.65%	American Express	400 Galleria Pkwy SE Ste 700	Atlanta	GA	30339	X
Harbor Payments, Inc.	14.65%	American Express	400 Galleria Parkway	Atlanta	GA	30339	X
Harbour Industries Canada Ltd.	100%	Marmon	1365 Boulevard Industrial	Farnham	Quebec Canada	J2N 2X3	X
Harbour Industries LLC	100%	Marmon	4744 Shelburne Road, P.O. Box 188	Shelburne	VT	05482-0188	X
Hard Metal Machine Tools Ireland Ltd.		TaeguTec	Dargan House, Duncairn	Terrace Bray Co. Wicklow	Ireland		X
Hardy Frames, Inc.		MiTek	789 S Victoria Ave # 200	Ventura	CA	93003	X
Harmony Dialysis, LLC	17.95%	DaVita Healthcare	1800 N Texas Street	Fairfield	CA	94533	X
Harris Dialysis, LLC	17.95%	DaVita Healthcare	16236 Lucas Ferry Rd	Athens	AL	35611	X
Harrisburg Horizons	100%	BH Media	363 Church St. N, Suite 140	Concord	NC	28025	X
Hart Dialysis, LLC	17.95%	DaVita Healthcare	1821 W Lincoln Avenue	Anaheim	CA	92801	X
Hart Housing (<i>d/b/a for Forest River, Inc.</i>)	100%	Forest River, Inc.	1025 E Waterford St	Wakarusa	IN	46573	X
Hartford Life Limited		Columbia Insurance		Dublin	Ireland		X
Hawaiian Gardens Dialysis, LLC	17.95%	DaVita Healthcare	12191 226th Street	Hawaiian Gardens	CA	90716	X
Hawk Acquisition Intermediate Corporation I	26.86%	Kraft Heinz	1 PPG Place, Suite 3100	Pittsburgh	PA	15222	X
Hawthorn Life International, Ltd.	100%	National Indemnity	200 Hopmeadow Street	Weatogue	CT	06089	X
Hawthorn Life Limited	100%	National Indemnity	P.O. Box 12135	Chelmsford	Ireland	CM99 2DX	X
Hazelton Dialysis, LLC	17.95%	DaVita Healthcare	1950 Sunnycrest Dr Suite 1300	Fullerton	CA	92835	X
HCP ACO California, LLC	17.95%	DaVita Healthcare	19191 South Vermont Ave Ste 200	Torrance	CA	90502	X
HDS Redevelopment Corporation	100%	Helzberg Diamond	1825 Swift	North Kansas City	MO	64116	X
Healthcare Partners Accountable Care Organization, LLC	17.95%	DaVita Healthcare	19191 S. Vermont Ave., Ste 200	Torrance	CA	90502	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Healthcare Partners Arizona, LLC	17.95%	DaVita Healthcare	300 W. Clarendon Ave. #230	Phoenix	AZ	85013	X
Healthcare Partners ASC-LB, LLC	17.95%	DaVita Healthcare	19191 S. Vermont Ave., Ste 200	Torrance	CA	90502	X
HealthCare Partners Holdings, LLC	17.95%	DaVita Healthcare	19191 S. Vermont Ave., Ste 200	Torrance	CA	90502	X
HealthCare Partners Independent Physician Association	17.95%	DaVita Healthcare	19191 S. Vermont Ave., Ste 200	Torrance	CA	90502	X
HealthCare Partners Institute for Applied Research and Education	17.95%	DaVita Healthcare	19191 S. Vermont Ave., Ste 200	Torrance	CA	90502	X
HealthCare Partners LLC	17.95%	DaVita Healthcare	19191 S. Vermont Ave., Ste 200	Torrance	CA	90502	X
HealthCare Partners Medical Group	17.95%	DaVita Healthcare	19191 S. Vermont Ave., Ste 200	Torrance	CA	90502	X
HealthCare Partners Nevada, Inc.	17.95%	DaVita Healthcare	770 E Warm Springs Road, Suite 240	Las Vegas	NV		X
HealthCare Partners Nevada, LLC	17.95%	DaVita Healthcare	700 E Warm Springs Road Suite 302	Las Vegas	NV	89119	X
HealthCare Partners of Nevada, LLC	17.95%	DaVita Healthcare	19191 S. Vermont Ave., Ste 200	Torrance	CA	90502	X
HealthCare Partners South Florida, LLC	17.95%	DaVita Healthcare	19191 S. Vermont Ave., Ste 200	Torrance	CA	90502	X
Heartland Senior Housing, LLC	99.99%	National Indemnity	610 Central Avenue	Fort Dodge	IA	50501	X
Heat Pipe Technology, Inc.	100%	Mitek	4340 NE 49th Avenue	Gainesville	FL	32609	X
Heavener Dialysis, LLC	17.95%	DaVita Healthcare	2401 Shelby St	Columbus	GA	31903	X
Heinz (China) Investment Company Limited	26.86%	Kraft Heinz	West Tower, Fortune Plaza, 114 Tiyu East Road	Guangzhou	Guangdong Province, China	510620	X
Heinz (China) Sauces & Condiments Co. Ltd.	26.86%	Kraft Heinz	Industrial Deveopment Zone Shawan Town, Panyu District	Guangzhou	Guangdong Province, China	511483	X
Heinz Africa & Middle East FZE	26.86%	Kraft Heinz	Jebel Ali	Dubai	United Arab Emirates		X
Heinz Africa FZE	26.86%	Kraft Heinz	W4 Building, A Block, 7th Floor, Office No. 717, Dubair Airport	Dubai	United Arab Emirates		X
Heinz Asean Pte. Ltd.	26.86%	Kraft Heinz	435 Orchard Rd #13-04/05	Wisma Atria	Singapore	238877	X
Heinz Brasil Alimentos Ltda.	26.86%	Kraft Heinz	Libero Badaro 293, 21 And C J D SL 7, Centro	Sao Paulo	Brazil		
Heinz Brasil S.A. (95% thru H.J. Heinz European Holding B.V.)	25.5%	Kraft Heinz		Sao Paulo	Brazil		X
Heinz Canada Holdings ULC	26.86%	Kraft Heinz	90 Sheppard Avenue East, Suite 400	North York	Ontario, Canada	M2N 7K5	X
Heinz Canada R&D ULC	26.86%	Kraft Heinz	148 Erie St S, Leamington	Toronto	Ontario, Canada	N8H 3W8	X
Heinz Colombia SAS	26.86%	Kraft Heinz		Bogata	Colombia		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Heinz Credit LLC	26.86%	Kraft Heinz		Meridian	ID	83646	X
Heinz Egypt LLC	26.86%	Kraft Heinz	No. 36, 2nd Industrial Zone	6th October City	Egypt		X
Heinz Egypt Trading LLC	26.86%	Kraft Heinz	No. 36, 2nd Industrial Zone	6th October City	Egypt		X
Heinz Europe Unlimited	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	X
Heinz European Holding B.V.	26.86%	Kraft Heinz	Kantorenpark De Breul Arnhemse Bovenweg 160 - 178	Zeist	Netherlands	3708 AH	X
Heinz Finance (Luxembourg) S.a.r.l.	26.86%	Kraft Heinz	11-13 Boulevard De La Foire	Luxembourg	Luxembourg	L1528	X
Heinz Foods South Africa (Proprietary) Limited (50.1% thru Heinz South Africa (Pty) Limited)	13.45%	Kraft Heinz	Heinz House, Berlyn Street	Paarl	South Africa		X
Heinz Foreign Investment Company	26.86%	Kraft Heinz	1 PPG Place, Suite 3100	Pittsburgh	PA	15222	X
Heinz Frozen & Chilled Foods BV	26.86%	Kraft Heinz	Stationsstraat 50	Elst	Netherlands	6662 BC	X
Heinz Georgievsk LLC	26.86%	Kraft Heinz	148 Ul.Oktyabrskaya	Georgievsk	Russia		X
Heinz Gida Anonim Sirketi	26.86%	Kraft Heinz	Outdoor Galley Avenue Apartment 16/9 Nisantasi	Istanbul	Turkey		X
Heinz GP LLC	26.86%	Kraft Heinz	1 PPG Place, Suite 3100	Pittsburgh	PA	15222	X
Heinz Hong Kong Limited	26.86%	Kraft Heinz	Tower 2, The Gateway, 25 Canton Road	Tsim Sha Tsui, KLN	Hong Kong		X
Heinz India Private Limited	26.86%	Kraft Heinz	Dr. Annie Besant Road, D Shivsagar 7th & 8th Floor	Worli Mumbai	India	400 018	X
Heinz Investment Company	26.86%	Kraft Heinz	1 PPG Place, Suite 3100	Pittsburgh	PA	15222	X
Heinz Investments (Cyprus) Limited	26.86%	Kraft Heinz		Limassol	Cyprus		X
Heinz Investments Ltd.	26.86%	Kraft Heinz		Limassol	Cyprus		X
Heinz Israel Limited	26.86%	Kraft Heinz		Tel Aviv	Israel		X
Heinz Italia S.p.A.	26.86%	Kraft Heinz	Via Cascina Belcasule 7	Milano	Italy	20141	X
Heinz Japan Ltd.	26.86%	Kraft Heinz	CS Tower, 5-20-8, Asakusabashi, Taito-ku	Tokyo	Japan	111-0053	X
Heinz Korea Ltd.	26.86%	Kraft Heinz		Inchon	Korea		X
Heinz Management LLC	26.86%	Kraft Heinz	600 Grant St Fl 60	Pittsburgh	PA	15219	X
Heinz Mexico, S.A. de C.V.	26.86%	Kraft Heinz	Av Morones Prieto No 2805, Piso 8	Monterrey	Mexico	N L 64710	X
Heinz Nutrition Foundation India	N/A	Kraft Heinz	D' Shiv Sagar Estate 7th Floor, Dr. Annie Besant Road, Worli,	Mumbai	India	400 018	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Heinz Pakistan (Pvt.) Limited	26.86%	Kraft Heinz	8th Floor, NIC Building, Abbasi Shaheed Road Off. Shahrah-e-Faisal	Karachi	Pakistan	75530	X
Heinz Produzioni Alimentari SRL	26.86%	Kraft Heinz	Via Cascina Belcasule, 7	Milano	Italy	20141	X
Heinz Purchasing Company	26.86%	Kraft Heinz	357 Sixth Avenue	Pittsburgh	PA	15222	X
Heinz Receivables LLC	26.86%	Kraft Heinz	57 Curtin Avenue	Pittsburgh	PA	15210	X
Heinz Sales & Marketing (MALAYSIA) SDN. BHD.	26.86%	Kraft Heinz		Kuala Lumpur	Malaysia		X
Heinz Single Service Limited	26.86%	Kraft Heinz	Hortonwood 2, Telford	Shropshire	England	TF1 7XW	X
Heinz South Africa (Pty.) Ltd.	26.86%	Kraft Heinz	Cnr Optenhorst and Berlyn St	Paarl	South Africa	7646	X
Heinz Thailand Limited	26.86%	Kraft Heinz	No. 134 Moo 17 Bang	Bangsaothong	Thailand	10540	X
Heinz Transatlantic Holding LLC	26.86%	Kraft Heinz	1 PPG Place, Suite 3100	Pittsburgh	PA	15222	X
Heinz UFE (Yan Tang) Ltd.	26.86%	Kraft Heinz	YAN TANG SHA HE	Guangzhou	Guangdong Province, China	510507	X
Heinz Vietnam Company Limited	26.86%	Kraft Heinz		Ho Chi Minh City	Vietnam		X
Heinz Watties Japan YK	26.86%	Kraft Heinz			Japan		
Heinz Wattie's Limited	26.86%	Kraft Heinz	46 Parnell Road	Parnell, Auckland	New Zealand		X
Heinz Wattie's Pty Ltd	26.86%	Kraft Heinz		Dandenong	Victoria, Australia		X
Heinz-Noble, Inc.	26.86%	Kraft Heinz	Box 57	Pittsburgh	PA	15230	X
Heinz-Qingdao Food Co., Ltd.	26.86%	Kraft Heinz		Qingdao	Shandong Province, China		X
Helco Services Limited	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	
Helzberg Diamond Shops, Inc.	100%	Helzberg Diamond	1825 Swift	North Kansas City	MO	64116	X
Hemingford Building, LLC		BH Media	1314 Douglas Street	Omaha	NE	68102	X
Hendricks & Partners, Inc.	50%	Berkadia	2525 East Camelback Road, Suite 1150	Phoenix	AZ	85016	X
Hendricks-Berkadia (d/b/a for Hendricks & Partners, Inc.)	50%	Berkadia	2525 East Camelback Road, Suite 1150	Phoenix	AZ	85016	X
Hendrix Wire & Cable, Inc.		Marmon	53 Old Wilton Rd.	Milford	NH	03055	X
Henley Holdings, LLC	100%	Clayton Homes	101 Lake Davenport Blvd #27	Davenport	FL	33897	X
Heritage Holly Springs, LP	99.99%	Affordable Housing	265 W. Woodward Ave	Holly Springs	MS	38635	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Hessische Flugplatz GmbH Egelsbach	87.7%	NetJets	Hans-Fleissner-Straße	Egelsbach	Germany	63329	X
Heyburn Dialysis, LLC	17.95%	DaVita Healthcare	2447 Hilliard Rome Road	Hilliard	OH	43026	X
HFWBH Development, Inc.	100%	BH Auto		Dallas	TX		X
HFWBH Motors, LLC	96%	BH Auto	3400 W Loop 820 S	Fort Worth	TX	76116	X
HG-Power Plant, Inc.	100%	Marmon	2711 Centerville Road, Suite 400, Wilmington	New Castle	DE	19808	X
Hickory Daily Record	100%	BH Media	1100 Park Place	Hickory	NC	28603	X
Higbee Dialysis, LLC	17.95%	DaVita Healthcare	1902 Hospital Blvd, Ste D	Gainesville	TX	76240	X
Highland Affordable Housing Partners, LLC	99.99%	National Indemnity	912 W Highland Avenue	Phoenix	AZ	85013	X
Highland Shoe Co. LLC		Justin Brands	48 Atlantic Ave	Brewer	ME	04412	X
Highview Atlantic Finance Company	26.86%	Kraft Heinz		George Town	Grand Cayman Cayman Islands		
Hill & Sons, LLC	100%	CTB International	211 Hogan Pond	Ball Ground	GA	30107	X
Hill Parts de Mexico S. de R.L. de C.V.	100%	CTB International	Obrero Mundial No. 629-C	Col. Narvarte	Mexico	03020	X
Hills Dialysis, LLC	17.95%	DaVita Healthcare	757 E Washington Blvd	Los Angeles	CA	90021	X
Historic Dialysis, LLC	17.95%	DaVita Healthcare	1501 N Washington Street	Forrest City	AR	72335	X
HJH Development Corporation	26.86%	Kraft Heinz	1 PPG Place, Suite 3100	Pittsburgh	PA	15222	X
HJH Overseas L.L.C.	26.86%	Kraft Heinz	1 PPG Place, Suite 3100	Pittsburgh	PA	15222	X
Hochatown Dialysis, LLC	17.95%	DaVita Healthcare	6005 Eastridge Road	Odessa	TX	79762	X
Hogebuilt (<i>a division of Fontaine Spray Suppression Company</i>)	100%	Marmon	287 South Sixth Avenue	Industry	CA	91746	X
Hohmann & Barnard, Inc.	100%	Mitek	30 Rasons Court	Hauppauge	NY	11788-0270	X
Holiday Dialysis, LLC	17.95%	DaVita Healthcare	2410 Alft Lane, Suite 101	Elgin	IL	60124	X
HomeChoice Partners, Inc.	17.95%	DaVita Healthcare	5365 Robin Hood Road, Ste 200	Norfolk	VA	23513	X
HomeFirst Agency, Inc.	100%	Clayton Homes	P.O. Box 4098	Maryville	TN	37802	X
Homemakers Furniture (<i>d/b/a for Homemakers Plaza, Inc.</i>)	100%	Berkshire Hathaway	10215 Douglas Avenue	Urbandale	IA	50322	X
Homemakers Plaza, Inc.	100%	Berkshire Hathaway	10215 Urbandale Avenue	Urbandale	IA	50322	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Honda of Fort Worth (<i>d/b/a for HFWBH Motors, LLC</i>)	96%	BH Auto	3400 W Loop 820 S	Fort Worth	TX	76116	X
Honey Dialysis, LLC	17.95%	DaVita Healthcare	2135 Main St E, Suite 130	Snellville	GA	30078	X
Honeyman Dialysis, LLC	17.95%	DaVita Healthcare	5945 Council Street NE	Cedar Rapids	IA	52402	X
Horizon UAE FZCO (<i>75% thru Heinz Asean Pte. Ltd.</i>)	20.14%	Kraft Heinz		Jebel Ali, Dubai	United Arab Emirates		X
Horizon Wine & Spirits - Chattanooga, Inc.	100%	McLane	3794 Tag Road	Chattanooga	TN	37416	X
Horizon Wine & Spirits - Nashville, Inc.	100%	McLane	3851 Industrial Pkwy	Nashville	TN	37218	X
Houston Acute Dialysis, L.P.	17.95%	DaVita Healthcare	11602 Burdine	Houston	TX	77231	X
Houston Belt & Terminal Railway Company	50%	BNSF Railway	501 Crawford St. Room 100	Houston	TX	77002	X
Integrated Service Network Limited Partnership	17.95%	DaVita Healthcare	221 Fm 1960 Road W # H	Houston	TX	77090	X
HP Foods (Canada) Inc.	26.86%	Kraft Heinz	36 Toronto Street	Toronto	Ontario, Canada	M5C 2C5	
HP Foods Holdings Limited	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	X
HP Foods International Limited	26.86%	Kraft Heinz	Kitt Green, Wigan	Lancashire	England	WN5 0JL	X
HP Foods Limited	26.86%	Kraft Heinz	1371 Mollison Avenue Grafton House	Enfield	United Kingdom	EN3 7JZ	X
Huffy Sports Company (<i>a division of Russell Corporation</i>)	100%	Russell Corporation	24700 S. Corporate Circle	Sussex	WI	53089	X
Hugo Canning Company Limited	26.86%	Kraft Heinz	P.O. Box 635 Boroko 111 Rouna Road 16-Mile	Port Moresby	Papua New Guinea		X
Humboldt Dialysis, LLC	17.95%	DaVita Healthcare	5973 Ogeechee Road	Savannah	GA	31419	X
Hunt Capital Partners Tax Credit Fund 2012 - Oak Hill, LLC	100%	National Indemnity	15260 Ventura Blvd, Suite 600	Sherman Oaks	CA	91403	X
Huntington Artificial Kidney Center, Ltd.	17.95%	DaVita Healthcare	256 Broadway	Huntington Station	NY	11746	X
Huntington Park Dialysis, LLC	17.95%	DaVita Healthcare	5942 Rugby Avenue	Huntington Park	CA	90255	X
Husker Auto Group, LLC	96%	BH Auto	6701Telluride Drive	Lincoln	NE	68521	X
Husker Cadillac (<i>d/b/a for Husker Auto Group, LLC</i>)		BH Auto	6833 Telluride Drive	Lincoln	NE	68521	X
Husker Dealership Property, LLC	100%	BH Auto	8500 Shawnee Mission Pkwy	Shawnee Mission	KS	66202	X
Husker GMC (<i>d/b/a for Husker Auto Group, LLC</i>)		BH Auto	6833 Telluride Drive	Lincoln	NE	68521	X
Husker Mercedes (<i>d/b/a for Husker Auto Group, LLC</i>)		BH Auto	6701Telluride Drive	Lincoln	NE	68521	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Hyattsville Dialysis, LLC	17.95%	DaVita Healthcare		Hyattsville	MD		X
Hyde Dialysis, LLC	17.95%	DaVita Healthcare	8231 E Stockton Blvd Suite A	Sacramento	CA	95828	X
Hyflux Marmon Development Pte Ltd.	50%	Marmon	202 Kallang Bahru #07-00 Hyflux Bldg	Singapore	Singapore	339339	X
HZ.I.L. Ltd.	26.86%	Kraft Heinz	5 Ben David St.	Rishon Lezion	Israel		X
I.G.R.E.C. Grundstücksverwaltungs GmbH	100%	Iscar	Eisenstockstr. 14, Ettlingen	Baden-Württemberg	Bundesrepublik Germany	76275	X
IBP Grid Systems, Inc.		Acme Brick	2917 W 7th St	Fort Worth	TX	76107-2221	X
ICRA Global Capital, Inc.	12.07%	Moody's	101 Merritt Blvd	Trumbull	CT	06611	X
ICRA Lanka Limited	12.07%	Moody's	10-02 East Tower, World Trade Center	Colombo	Sri Lanka	01	X
ICRA Limited	12.07%	Moody's	Building No. 8, 2nd Floor, Tower A, DLF Cyber City, Phase II	Gurgaon	India	122002	X
ICRA Management Consulting Services Limited	12.07%	Moody's	Logix Park 1st Floor, Tower A4 & A5, Sector-16	Noida	India	201301	X
ICRA Online Limited	12.07%	Moody's	107 Raheja Arcade 1st Floor, Plot No. 61, Sector XI, CBD Belapur	Navi Mumbai	India	400614	X
ICRA Sapphire, Inc.	12.07%	Moody's	101 Merritt Blvd, Suite 107	Trumbull	CT	06611	X
ICRA Techno Analytics Limited	12.07%	Moody's	7th Floor, Plot D2/2, Block EP & GP, Sector- V	Kolkata	India	700091	X
IDC International Detergent Chemicals Limited	100%	Lubrizol	Little Island	Cork	Ireland		X
IDC International Dialysis Centers Ltd.	17.95%	DaVita Healthcare	Uncalı Mah. 24. Cadde, No:113	Antalya	Turkey		X
Idealife Insurance Company	100%	General Re	P.O. Box 300	Stamford	CT	06904	X
IDQ Canada, Inc.	100%	Dairy Queen	5245 Harvester Road	Burlington	Ontario, Canada	L7R 3Y3	X
IIG Minwool, LLC	100%	Johns Manville	2100 Line Street	Brunswick	GA	31520	X
Illinois Insurance Company	100%	North American Casualty Co.	10805 Old Mill Road	Omaha	NE	68154	X
ILS SRL	100%	TTI, Inc.	Lavalle 557, Piso 5º	Buenos Aires	Argentina		X
IMaCS Virtus Global Partners, Inc.	12.07%	Moody's	501 Fifth Avenue, Ste 302	New York	NY	10017	X
IMC (Germany) Holdings GmbH	100%	Iscar	Florianstr. 17	Vaihingen	Germany	71665	X
IMC Belarus		Iscar	Nachimova str. 12, office 101	Minsk	Belarus	220033	X
IMC Group USA Holdings, Inc.	100%	Iscar	300 Westway Place	Arlington	TX	76018-1021	X

BERKSHIRE HATHAWAY INC. (10% and greater)

IMC Holdings GmbH		Iscar	95 South Route 83	Grayslake	IL	60030	X
IMC International B.V.		Iscar	Giek 7D, Zeewolde	Flevoland	Netherlands	3891	X
IMC International Metalworking Companies B.V.	100%	Iscar	Zwolleweg 6	Gouda	Netherlands	2803 PS	X
IMC International Metalworking Engineering & Production (Dalian) Co. Ltd.	100%	Iscar	7B21, hanwei Plaza, GuangHua Road, Chaoyang District	Beijing	China	100004	X
IMC Investment Holding Inc.	100%	Iscar	300 Westway Place	Arlington	TX	76018	X
IMC Metaldur S.A.	100%	Iscar	CH- 2 500 Biel 6		Switzerland		X
IMC RUS - Round Tool Services LLC	70%	Iscar	Lesnaya str. 8A	Electrostal	Russia	144011	X
IMI Cornelius (Tianjin) Co. Ltd.	100%	Marmon	No 12, Xintai Street, Taifeng Industrial Park	Tianjin	China	300457	X
IMI Cornelius Espana SA	100%	Marmon	Garraf, 17-19, Sant Boi de Llobregat	Barcelona	Spain		X
Immobiliare 2000 s.r.l.		Iscar	John Fitzgerald Kennedy 39/A	Figline Valdarno	Italy	50063	X
Immobiliare Spagna & Mignanelli S.r.l. (11.42% owned by American Express)		Iscar		Rome	Italy		X
IMPulse NC LLC	100%	Marmon	PO Box 889, 100 IMPulse Way	Mount Olive	NC	28365	X
Income Trust No. 1				New York	NY	10111	X
Income Trust No. 2				New York	NY	10111	X
Indecor Group, Inc. d/b/a J. C. Licht Company		Benjamin Moore	320 Fullerton Avenue	Carol Stream	IL	60188	X
Independent Capital Corporation	14.65%	American Express	820 Tavern Road	West Trenton	NJ	08628	X
Independent Tribune	100%	BH Media	363 Church St. N, Suite 140	Concord	NC	28025	X
Indian River Dialysis Center, LLC	17.95%	DaVita Healthcare	2150 45th Street, Unit 102	Vero Beach	FL	32967	X
Indianapolis Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	1050 S. Emerson Avenue	Indianapolis	IN	46203	X
Industria Procesadora de Alimentos de Barcelona C.A.	26.86%	Kraft Heinz		Caracas	Venezuela		X
Industrial Insulation Group, LLC	100%	Johns Manville	2100 Line Street	Brunswick	GA	31520	X
Industrias Ecodyne S.A. de C.V.	49%	Marmon	Av. Baja California No 245-306 Y 307 Hipodromo, Cuauhtemoc	Ciudad De Mexico	Distrito Federal Mexico	06100	X
Industriepark Werk Bobingen GmbH and Co Kg	57.14%	Johns Manville	Faserweg 1, 97877	Wertheim am Main	Germany		X
Industriepark Werk Bobingen Verwaltungs GmbH	57.14%	Johns Manville	Faserweg 1, 97877	Wertheim am Main	Germany		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Infiniti of Peoria (d/b/a for PIVT Motors, LLC)	93%	BH Auto	9167 W. Bell Road	Peoria	AZ	85382	X
Infiniti of Scottsdale, LLC	91%	BH Auto	7601 E Frank Lloyd Wright	Scottsdale	AZ	85260	X
Infiniti of Springfield (d/b/a for Reliable Chevrolet (MO), LLC)	81.00%	BH Auto	3655 S. Campbell	Springfield	MO	65807	X
Infiniti on Camelback (d/b/a for IOC Motors, LLC)	80%	BH Auto	1250 E. Camelback Road	Phoenix	AZ	85014	X
Ingersoll Cutting Tool Company	100%	Iscar	845 S. Lyford Road	Rockford	IL	61108-2749	X
Ingersoll Cutting Tool Ltd.	100%	Iscar	4510 Rhodes Dr., Unit #100	Windsor	Ontario Canada	N8W 5K5	X
Ingersoll Cutting Tools De Mexico, Sa De C.V.	100%	Iscar	Carr. Saltillo Monterrey Km. 5.5, Local 2 y 3	Saltillo	Coahuila C.P. Mexico	25200	X
Ingersoll France S.A.R.L.	100%	Iscar	21 Rue Galilee	Champs Sur Marne	France	F-77420	X
Ingersoll Hungary Kft	100%	Iscar		Budapest	Hungary		X
Ingersoll Limited Liability Company	51%	Iscar		Moscow	Russia		X
Ingersoll Moscow		Iscar	Godovikova str. 9	Moscow	Russia	129085	X
Ingersoll Russia Ural	51%	Iscar	Malogruzovaya str., 1 - office 605	Chelyabinsk	Russia	454007	X
Ingersoll Taegutec Italia S.r.l.	65%	Iscar	Via Monte Grappa 78	Arese (MI)	Italy	20020	X
Ingersoll Werkzeuge GmbH	100%	Iscar	Kalteiche-Ring 21-25	Haiger	Germany	35708	X
Ingersoll-Taegutec Japan Ltd.		Iscar	Senri Asahi Hankyu Bldg. 15F, 1-5-3 Shinsenri-Higashimachi	Toyonaka-shi	Osaka, Japan	560-0082	X
Ingram Place Apartments, LLC	99.99%	Affordable Housing	710 N Plankton Avenue	Milwaukee	WI	53203	X
Innovative Building Products, Inc.	100%	Acme Brick	2821 W. 7th Street	Fort Worth	TX	76107	X
Insiders Technologies GmbH			Elsenheimerstraße 65	München	Germany	80687	X
Insiders Wissensbasierte Systeme GmbH			Wilh.-Th.-Römheld-Str. 18	Mainz	Germany	55130	X
Insl-x Products Corporation		Benjamin Moore	101 Paragon Drive	Montvale	NJ	07645	X
Insurance Counselors of Nevada, Inc.		GEICO		Washington	DC	20076	X
Insurance Counselors of Texas, Inc.		GEICO	1 Geico Plaza	Washington	DC	20076	X
Insurance Counselors, Inc.		GEICO	1 Geico Boulevard	Fredericksburg	VA	22412	X
Integrated Travel Systems, Inc.	14.65%	American Express	61 Broadway	New York	NY	10006	

BERKSHIRE HATHAWAY INC. (10% and greater)

Integrity Delaware, LLC	100%	Lubrizol	515 Post Oak Blvd	Houston	TX	77027	X
Intehna Beo d.o.o.		Iscar	Autoput 22	Zemun	Serbia	11080	X
Intehna Beo Ltd. Belgrade	50.999%	Iscar	Highway 22	Belgrade-Zemun	Serbia	11000	X
Intehna d.o.o.	50%	Iscar	Spruha 40, SI-1236	Trzin	Slovenia		X
Intehna Zagreb Ltd.	51.3%	Iscar	Samoborska cesta 30	Bestovje	Croatia	10437	X
Interactive Transaction Solutions Limited	14.65%	American Express	Systems House, Unit 1 Station Approach	Emsworth	UK	PO10 7PW	X
Interactive Transaction Solutions SAS	14.65%	American Express	Parc Saint Christophe, 10, Avenue de l'Entreprise	Cergy-Pontoise Cedex	France	95865	X
Interamericana de Alimentos Lbda. (99.9% thru HJH Overseas LLC)	26.83%	Kraft Heinz	Rua Correia Dias, 348, Cidade Nova Heliópolis	São Paulo	Brazil	04104-001	
Interco Tobacco Retailers, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	
Intercorp Excelle Inc.	26.86%	Kraft Heinz	1880 Ormont Drive	Toronto	Ontario, Canada	M9L 2V4	X
Interkraft Handel GmbH	11.4%	Phillips 66	Caffamacherreihe 1	Hamburg	Germany	20355	X
Intermodal Transfer, LLC	100%	Marmon	1691 Phoenix Blvd, Suite 110	Atlanta	GA	30349	X
International Capital Corp.	14.65%	American Express	328 Deertrail Lane	Mill Valley	CA	94941	X
International Capital Corp. (Cayman)	14.65%	American Express	PO Box 309, Ugland House	Grand Cayman	Cayman Islands	KY1-1104	X
International Capital I Corp.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
International Dairy Queen, Inc.	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	X
International Insurance Underwriters, Inc.	100%	GEICO	4365 Executive Dr Ste 850	San Diego	CA	92121	X
International Traders, Inc.	100%	McLane	800 Tiffany Boulevard # 302	Rocky Mount	NC	27804	X
Intrepid JSB, Inc.	100%	McLane	2641 Meadowbrook Road	Rocky Mount	NC	27802	X
Inveramex Chile Ltda.	14.65%	American Express			Chile		X
Inverness Corporation	100%	Richline Group	6 Hazel Street	Attleboro	MA	02703	X
IOC Motors, LLC	80%	BH Auto	1550 E Missouri Ave Ste 300	Phoenix	AZ	85014	X
Ionia Dialysis, LLC	17.95%	DaVita Healthcare	2622 Heartland Blvd	Ionia	MI	48846	X
Ironman-GMC, Limited Partnership	99.99%	National Indemnity	398060 W 2200 Rd	Bartlesville	OK	74006	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Ironwood Plastics, Inc.	100%	CTB	1235 Wall Street	Ironwood	MI	49938	X
Irvtex Automotive Sales II, LLC	81%	BH Auto	801 W Airport Fwy	Irving	TX	75062	X
Isabela Shoe Corporation LLC	100%	HH Brown	Route 2 KM 1112	Isabela	Puerto Rico	00662	X
Iscar Alati d.o.o.	100%	Iscar	J.Jelačića 134	Samobor	Croatia	10430	X
Iscar Australia Pty Ltd.	100%	Iscar	P. O. Box 325	Chester Hill	Australia	NSW 2162	X
Iscar Austria GmbH	100%	Iscar	Im Stadtgut C 2	Steyr-Gleink	Austria	A – 4407	X
Iscar Belarus		Iscar	Klumova str. 3, office 3	Minsk	Belarus	220009	X
Iscar Benelux S.A.	100%	Iscar	Roekhout 13, 1702 Dilbeek (Groot-Bijgaarden)	Brussels	Belgium		X
Iscar Bulgaria Eood	100%	Iscar	37 A,"N.Petkov"str, Floor 2; Rm. 12	Kazanlak	Bulgaria	6100	X
Iscar C.R. s.r.o.	100%	Iscar	Mánesova 73	Pizen	Czech Republic	30100	X
Iscar China	100%	Iscar	7B21 hanwei Plaza, GuangHua Road, Chaoyang District	Beijing, P.R.C.	China	100004	X
Iscar CIS LLC	100%	Iscar		Moscow	Russia		X
Iscar De México, S.A. de C.V.	100%	Iscar	Av. de la Corte No. 3 Pqe Ind El Marqués	El Marqués, Querétaro	Mexico	C.P. 76246	X
Iscar DO Brasil Comercial Ltda.	100%	Iscar	Rodovia Miguel Melhado Campos	Bairro Moinho	Brazil	KM 79	X
Iscar Finland OY	51%	Iscar	Ahertajantie 6	Espoo	Finland	02100	X
Iscar France S.A.S.	100%	Iscar	8, Rue Georges Guynemer	Guyancourt Cedex	France	78286	X
Iscar Germany GmbH	100%	Iscar	Eisenstockstrasse 14	Ettlingen	Germany	D 76275	X
Iscar Gesellschaft MbH	100%	Iscar	Im Stadtgut A1	Steyr-Glei	Austria	A-4407	X
Iscar Greece S.A.	100%	Iscar			Greece		X
Iscar Hartmetall A.G.	100%	Iscar	Wespenstrasse 14	Frauenfeld	Switzerland	CH 8500	X
Iscar Hungary Kft	100%	Iscar	Kassai u 151	Budapest	Hungary	H 1142	X
Iscar Iberica S.A.	50%	Iscar	Parc Tecnològic del Vallès, Avda.Univ.Autònoma 19-21	Cerdanyola-Barcelona	Spain	08290	X
Iscar International Trading (Shanghai) Co. Ltd.	100%	Iscar	No.218 Huashen Road	Waigaoqiao	Shanghai China	200131	X
Iscar Italia s.r.l.	100%	Iscar	Via Mattei 49/51	Arese (Milano)	Italy	20020	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Iscar Japan Ltd.	100%	Iscar	Hankyu Building 1-5-3 Shinsenri-Higashimachi	Toyonaka-shi	Osaka Japan	560-0082	X
Iscar Kesici Takim Ticareti Veimpalati Ltd. Sirketi	99.167%	Iscar	Gebze Organize Sanayi Bölgesi (GOSB), İhsan Dede Cad. No: 105	Gebze/Kocaeli	Turkey		X
Iscar Korea		Iscar	304 Yongghe-ri, Gachang-myeon	Dalsung-gun	Taegu South Korea	711-860	X
Iscar Limited Liability Company	75%	Iscar	5510 Alcove Avenue	Valley Village	CA	91607	X
Iscar Ltd.	100%	Iscar	4 Derech Hashalom	Tel Aviv	Israel		X
Iscar Metals Inc.	100%	Iscar	300 Westway Place	Arlington	TX	76018	X
Iscar Mexico S.A. De C.V.		Iscar	Fray Pedro de Gante No. 15, Col. Cimatario, C.P.	Querétaro, Qro.	Mexico	76030	X
Iscar Nederland B.V.	100%	Iscar	Postbus 704	Gouda	Netherlands	2800 AS	X
Iscar Nepremicnine d.o.o.	50%	Iscar	Špruha 38	Trzin	Slovenija	1236	X
Iscar Norden A.B.		Iscar	Kungsangsvagen 17B	Uppsala	Sweden	751 08	X
Iscar Pacific Ltd.		Iscar	1/501 Mt. Wellington Hwy.	Mt. Wellington	Auckland New Zealand		X
Iscar Poland Sp. Z.o.o.	100%	Iscar	ul. Gospodarcza 14	Katowice	Poland	40-432	X
Iscar Portugal-Tools and Machinery, S.A.	100%	Iscar	Rua Ferreira de Castro 134, Apt.510	Ovar	Portugal	3884-908	X
Iscar Rezni Alati d.o.o.	100%	Iscar	Put Mostina bb, 21000 Split		Croatia		X
Iscar RF East LLC (Ural)	100%	Iscar	Malogruzovaya str., 1 - office 605	Chelyabinsk	Russia	454007	X
Iscar Russia, LLC		Iscar	Godovikova str. 9	Moscow	Russia	129085	X
Iscar Slovenija d.o.o.	50%	Iscar	IOC, Motnica 14	Trzin	Slovenija	1236	X
Iscar South Africa (Pty) Ltd.	100%	Iscar	Old Mutual Business Park Office Node D3, Gewell St.	Isando 1600	Gauteng South Africa		X
Iscar Sr. S.R.O.	100%	Iscar	K múseu 3	Zilina	Slovakia	010 03	X
Iscar Sverige AB	100%	Iscar	Kungsängsvägen 17B, Box 845	Uppsala	Sweden	751 08	X
Iscar Taiwan, Ltd.	75.5%	Iscar	395, Da Duen South Road	Taichung 408	Taiwan		X
Iscar Thailand, Ltd.	51%	Iscar	57, 59, 61, 63 Soi Samanchan-Babos, Sukhumvit Rd.	Phra Khanong, Khlong Toey	Bangkok	10110	X
Iscar Tools Argentina S.A.	50%	Iscar	Monteagudo 222	Buenos Aires	Argentina	1437	X
Iscar Tools d.o.o.	100%	Iscar	Autoput 22	Zemun	Serbia	SRB-11080	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Iscar Tools Inc.	100%	Iscar	2100 Bristol Circle	Oakville	Ontario, Canada	L6H 5R3	X
Iscar Tools Ltd.	100%	Iscar	Woodgate Business Park Bartley Green	Birmingham	England	B32 3DE	X
Iscar Tools S.R.L.	100%	Iscar	Str. Maramures nr. 38, Corp 2	Otopeni	Romania	010832	X
Iscar Ukraine LLC	100%	Iscar	160B, Frunze Str. of.1007	Kiev	Ukraine	04073	X
Iscar Vietnam	100%	Iscar	Room D 2.8, Etown Building, 364 Cong Hoa, Tan Binh Dist.	Ho Chi Minh City	Vietnam		X
ISD Bartlett, LLC	17.95%	DaVita Healthcare	2920 Covington Pike	Memphis	TN	38128	X
ISD Bends Dialysis, LLC	17.95%	DaVita Healthcare					X
ISD Brandon, LLC	17.95%	DaVita Healthcare	101 Christian Drive	Brandon	MS	39042	X
ISD Buffalo Grove, LLC	17.95%	DaVita Healthcare	1291 W Dundee Road	Buffalo Grove	IL	60089	X
ISD Canton, LLC	17.95%	DaVita Healthcare	260 Hospital Road	Canton	GA	30114	X
ISD Corpus Christi, LLC	17.95%	DaVita Healthcare	1533 Holly Road	Corpus Christi	TX	78417	X
ISD I Holding Company, Inc.	17.95%	DaVita Healthcare	2000 16th Street	Denver	CO	80202	X
ISD II Holding Company, Inc.	17.95%	DaVita Healthcare	2000 16th Street	Denver	CO	80202	X
ISD Kansas City, LLC	17.95%	DaVita Healthcare	3947 Broadway Street	Kansas City	MO	64111	X
ISD Kendallville, LLC	17.95%	DaVita Healthcare	602 N Sawyer Road	Kendallville	IN	42755	X
ISD Las Vegas, LLC	17.95%	DaVita Healthcare	1489 W Warm Springs Road, Suite 122	Henderson	NV	89014	X
ISD Lees Summit, LLC	17.95%	DaVita Healthcare	100 NE Missouri Rd, Suite 100	Lee's Summit	MO	64086	X
ISD Plainfield, LLC	17.95%	DaVita Healthcare	8110 Network Drive	Plainfield	IN	46168	X
ISD Renal, Inc.	17.95%	DaVita Healthcare	1220 Siloam Road	Greensboro	GA	30642	X
ISD Schaumburg, LLC	17.95%	DaVita Healthcare	1156 S Roselle Road	Schaumburg	IL	60193	X
ISD Spring Valley, LLC	17.95%	DaVita Healthcare	3855 S. Jones Blvd, Suites 101, 102, 103	Las Vegas	NV	89103	X
ISD Summit Renal Care, LLC	17.95%	DaVita Healthcare	265 N Main Street	Munroe Falls	OH	44262	X
ISD Trenton, LLC	17.95%	DaVita Healthcare	1840 Princeton Avenue	Lawrenceville	NJ	08648	X
Isreco A.G.	100%	Iscar	Wespenstrasse 14	Frauenfeld	Switzerland	8500	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Istituto Scotti Bassani per la Ricerca e l'Informazione Scientifica e Nutrizionale	N/A	Kraft Heinz		Milano	Italy		X
Iswerco A.B.		Iscar	Kungsängsvägen 17B, Box 845	Uppsala	Sweden	751 08	X
Iswerco Aktiebolag	100%	Iscar	Box 845	Uppsala	Sweden	751 08	X
It. Te. Di. S.R.L.	51.02%	Iscar	Via Nazionale, 60	Pergine Valdarno	Italy	52020	X
IT.TE.DI. Israel Ltd.	100%	Iscar			Israel		
J. S. Justin, Inc.	100%	Justin Brands	P.O. Box 548	Fort Worth	TX	76101	X
J.L. Mining Company	100%	Marmon	11 South 12th Street	Richmond	VA	23218	
Jacinto Dialysis, LLC	17.95%	DaVita Healthcare	2617 Crossroads Drive	Ardmore	OK	73401	X
Jackson Building Materials (<i>d/b/a for L&W Supply Corporation</i>)	29.95%	USG	120 Rosehill Road	Jackson	MI	49202	X
Jackson County Floridian	100%	BH Media	4403 Constitution Lane	Marianna	FL	32448	X
Jackson Square Housing, LLC	99.99%	National Indemnity	644 Biscoe Road	Troy	NC	27371	X
Jacobs Road Limited	26.86%	Kraft Heinz		George Town	Grand Cayman Cayman Islands		X
Janovic/Plaza Inc.		Benjamin Moore	30-35 Thomson Avenue	Long Island City	NY	11101	
JDS Properties, Inc.	100%	McLane	P.O. Box 800	Rocky Mount	NC	27802	X
Jedburg Dialysis, LLC	17.95%	DaVita Healthcare	2897 W 5th North Street	Summerville	SC	29483	X
Jenkins Brick & Tile Company, LLC		Acme Brick	201 6th Street North	Montgomery	AL	36104	X
Jerzees Activewear (<i>a division of Russell Corporation</i>)	100%	Russell Corporation	3330 Cumberland Blvd Ste 1000	Atlanta	GA	30339	X
Jerzees Buena Vista, SRL	100%	Fruit of the Loom			Honduras		X
Jerzees Campeche, S.A. de C.V.	100%	Fruit of the Loom	Av. Baja Velocidad No. 108 Prol. Ramon Espinola Blanco Colonial Campeche	Campeche	Mexico		X
Jerzees Choloma SRL	100%	Fruit of the Loom		Choloma	Honduras		
Jerzees de Honduras SRL	100%	Fruit of the Loom			Honduras		X
Jerzees de Jimenez, S.A. de C.V.		Fruit of the Loom	Simón Bolívar 1804	Jimenez	Chihuahua, Mexico		X
Jerzees Holdings (Ireland) Limited	100%	Fruit of the Loom	32 Nassau Street	Dublin	Ireland		
Jerzees Nuevo Dia SRL	100%	Fruit of the Loom			Honduras		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Jerzees Spain, S.L.		Fruit of the Loom					X
Jerzees Yucatan, S.A. de C.V.	100%	Fruit of the Loom	Carretera Mérida-Tixkokob Km.18	Tixkokob	Yucatan, Mexico	97470	X
JET Energy Trading GmbH	11.4%	Phillips 66	Caffamacherreihe 1	Hamburg	Germany	20355	X
JET Petrol Limited	11.4%	Phillips 66	40 Linenhall Street, 3rd Floor	Belfast	Ireland	BT2 8BA	X
Jet Petroleum Limited	11.4%	Phillips 66	200 Aldersgate Street, 7th Fl.	London	UK	EC1A 4HD	X
JET Tankstellen Austria GmbH	11.4%	Phillips 66	Samergasse 27	Salzburg	Austria	5020	X
JET Tankstellen Deutschland GmbH	11.4%	Phillips 66	Caffamacherreihe 1	Hamburg	Germany	20355	X
Jet Tankstellen-Betriebs GmbH	11.4%	Phillips 66	Caffamacherreihe 1	Hamburg	Germany	20355	X
JHA, Inc.		General Re	120 Exchange St # 3	Portland	ME	04101	X
Jiffy Limited	11.4%	Phillips 66	2 Portman Street	London	England	W1H 6DU	X
JM E3 Company		Johns Manville	P. O. Box 5108	Denver	CO	80217-5108	X
Joe Myers Automotive, LLC	81%	BH Auto	19010 NW Freeway	Houston	TX	77065	X
Joe Myers Dealership Property, L.P.	100%	BH Auto	P.O. Box 795	Mission	KS	66201	X
Joe Myers Ford II, LLC <i>d/b/a Joe Myers Ford</i>	96%	BH Auto	16634 NW Freeway	Houston	TX	77040	X
Joe Myers Kia (<i>d/b/a for Joe Myers Motors-Three, LLC</i>)	81%	BH Auto	16500 NW Freeway	Houston	TX	77040	X
Joe Myers Lincoln		BH Auto	16634 NW Freeway	Houston	TX	77040	X
Joe Myers Mazda (<i>d/b/a for Joe Myers Motors-Three, LLC</i>)	81%	BH Auto	16500 NW Freeway	Houston	TX	77040	X
Joe Myers Motors-Three, LLC	81%	BH Auto	16500 NW Freeway	Houston	TX	77040	X
Joe Myers Scion		BH Auto	19010 NW Freeway	Houston	TX	77065	X
Joe Myers Toyota (<i>d/b/a for Joe Myers Automotive, LLC</i>)	81%	BH Auto	19010 NW Freeway	Houston	TX	77065	X
Johns Manville	100%	Johns Manville	717 17th Street	Denver	CO	80202	X
Johns Manville Asia Trading Co., Ltd.	100%	Johns Manville	No. 153 Huaying Road	Qingpu, Shanghai	P.R. China	201700	X
Johns Manville Benelux N.V.	100%	Johns Manville	Leuvenselaan 891	Tienan	Belgium	3300	X
Johns Manville Canada, Inc.	100%	Johns Manville	Brunswick House, 10th Floor, 44 Chipman Hill	St. John	New Brunswick Canada	E2L 4S6	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Johns Manville China, Ltd.	100%	Johns Manville	Shanghai Center, 1376 Nanjing Road West, Level 5, Suite 537	Shanghai	China	200040	X
Johns Manville Contracting Services, Inc.		Johns Manville	717 17th Street	Denver	CO	80202	X
Johns Manville Corporation	100%	Johns Manville	717 17th Street	Denver	CO	80202	X
Johns Manville Denmark A/S		Johns Manville	Bygmarken 10	3520 Farum	Denmark		
Johns Manville Environmental Fabrics B.V.		Johns Manville	Eektestraat 2, Oldenzaal	Overijssel	Netherlands	7575 AP	X
Johns Manville Europe GmbH	100%	Johns Manville	Wupperstr. 10	Berlin	Germany	14167	X
Johns Manville European Investments B.V.		Johns Manville	Herengracht 450, 1017 CA	Amsterdam	Netherlands		X
Johns Manville France S.A.R.L.	100%	Johns Manville	16 Rue Louis Pasteur	Boulogne	France	92100	X
Johns Manville Fund, Inc.	100%	Johns Manville	P.O. Box 17086	Denver	CO	80217	X
Johns Manville GmbH	100%	Johns Manville	P.O. Box 347	Bobingen	Germany	D-86392	X
Johns Manville Industrial S.A. de C.V.		Johns Manville	S.C., Paseo de los Tamarindos No. 400-B, Floors 7, 8 and 9	Bosques de las Lomas	Mexico		X
Johns Manville International B.V.	100%	Johns Manville	Herengracht 450, 1017 CA	Amsterdam	Netherlands		X
Johns Manville International Group, Inc.		Johns Manville	717 17th Street	Denver	CO	80202	X
Johns Manville International, Inc.		Johns Manville	717 17th Street	Denver	CO	80202	X
Johns Manville Limited	100%	Johns Manville	Suite 5B Rossett Business Village, Llyndir Lane Burton	Rossett, Wrexham	Wales	LL12 0AY	X
Johns Manville Ltd. (West Africa) Ltd.	100%	Johns Manville	717 17th Street	Denver	CO	80202	
Johns Manville Luoyang Nonwovens Co., Ltd.	100%	Johns Manville		Luoyang	China		X
Johns Manville Polska Sp. z o.o.	100%	Johns Manville	Wadowicka 6E/21	Kraków	Poland	30-415	X
Johns Manville S.A. de C.V.		Johns Manville	c/o Jauregui, Navarrete, nader y Rojas, S.C., Paseo de los Tamarindos No. 400-B, Floors 7, 8 and 9	Bosques de las Lomas	Mexico		X
Johns Manville S.r.l.	100%	Johns Manville	Via Burma 81	Rome	Italy	00144	X
Johns Manville Sales GmbH	100%	Johns Manville	P.O. Box 347	Bobingen	Germany	D-86392	X
Johns Manville Sales Limited		Johns Manville	Unit 4, Roundwood Drive, Sherdley Park Inc. Estate	Merseyside St. Helens	England	WA, 9 5JD	X
Johns Manville Shanghai Nonwovens Co., Ltd.	100%	Johns Manville	No. 153 Huaying Road, Qingpu	Shanghai	China	201700	X
Johns Manville Slovakia A.S.	100%	Johns Manville	Strojarska 1	Trnava	Slovak Republic	917 99	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Joliet Dialysis, LLC	17.95%	DaVita Healthcare	1051 Essington Road	Joliet	IL	60435	X
Jomac Canada Inc.	100%	Marmon	10 Bachelder Street	Stanstead	Quebec Canada	J0B 3E2	X
Jordan's Furniture, Inc.	100%	Jordan's	100 Stockwell Drive	Avon	MA	02322	X
Joshua Dialysis, LLC	17.95%	DaVita Healthcare	626 S Andover Road	Andover	KS	67002	X
Joya de Ceren Limitada, de C.V.	100%	Fruit of the Loom		Santa Ana	El Salvadore		X
JSA Care Partners, LLC	17.95%	DaVita Healthcare	10051 5th Street North	St. Petersburg	FL	33702	X
JSA Healthcare Corporation	17.95%	DaVita Healthcare	10051 5th Street North, Ste 200	St. Petersburg	FL	33702	X
JSA Healthcare Nevada, LLC	17.95%	DaVita Healthcare	1776 E Warm Springs Rd # 302	Las Vegas	NV	89119	X
JSA Holdings, Inc.	17.95%	DaVita Healthcare	14100 Leetsbir Road	Sturtevant	WI	53177	X
JSA P5 Nevada, LLC	17.95%	DaVita Healthcare	700 E Warm Springs Rd # 110	Las Vegas	NV	89119	X
Justin Belt Company, Inc.	100%	Justin Brands	610 West Daggett	Fort Worth	TX	76104	
Justin Boot Company	100%	Justin Brands	610 West Daggett	Fort Worth	TX	76104	X
Justin Brands Australia, LLC	100%	Justin Brands			Australia		X
Justin Brands Canada, LLC	100%	Justin Brands	610 West Daggett	Fort Worth	TX	76104	X
Justin Brands International, LLC	100%	Justin Brands	610 West Daggett	Fort Worth	TX	76104	X
Justin Brands, Inc.	100%	Justin Brands	610 West Daggett	Fort Worth	TX	76104	X
Justin Highland Shoe, LLC	100%	Justin Brands	610 West Daggett	Fort Worth	TX	76104	X
Justin Industries, Inc.	100%	Justin Brands	2821 W. 7th Street	Fort Worth	TX	76107	X
Justin Management Company, L.P.		Justin Brands	153 W 27th St	New York	NY	10001	X
Justin Royalty B.V.		Justin Brands	Drentestraat 24 BG, 1083 HK	Amsterdam	Netherlands		X
JVL 1721, LP	98.99%	Affordable Housing		St. Louis	MO		X
Kahn Ventures, Inc.	100%	McLane	3755 Atlanta Industrial Pkwy	Atlanta	GA	30331	X
Kaiping Guanghe Fermented Bean Curd Co. Ltd.	26.86%	Kraft Heinz	No.6 Dongbu, Shuikou town	Qiaoxiang Kaiping	Guangdong Province, China		X
Kaiping Jiashili Dried Fruit and Nuts Co. Ltd.	26.86%	Kraft Heinz	Honghua Road	Kaiping Jiangmen	Guangdong Province, China		

BERKSHIRE HATHAWAY INC. (10% and greater)

Kaiping Weishida Seasonings Co. Ltd.	26.86%	Kraft Heinz	Lixin South Road	Kaiping Jiangmen	Guangdong Province, China		X
Kamloops Paint & Wallpaper Inc.		Benjamin Moore	735 Victoria Street	Kamloops	BC	V2C 2B5	X
Kansas City Retail & Convenience, LLC	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Kansas City Terminal Railway Company	25%	BNSF Railway	4501 Kansas Avenue	Kansas City	KS	66106	X
Karmelkorn Shoppes, Inc.	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	X
Katherine Estates, LP	99%	Affordable Housing		Duquesne	MO		X
Kavett Dialysis, LLC	17.95%	DaVita Healthcare	7150 W 20th Ave Suite 109	Hialeah	FL	33016	X
Kayo Oil Company	11.4%	Phillips 66	315 South Johnstone	Bartlesville	OK	74004	X
Kearn Dialysis, LLC	17.95%	DaVita Healthcare	201 FM 971	Georgetown	TX	78626	X
Kearney Hub Publishing Company, Inc.	100%	BH Media	13 East 22nd Street	Kearney	NE	68848	X
Kenai Dialysis, LLC	17.95%	DaVita Healthcare	10787 Nall Ave, Suite 130	Overland Park	KS	66211	X
Kenny Kent Chevrolet Co., LLC	96%	BH Auto	4600 Division Street	Evansville	IN	47715	X
Kenny Kent Lexus (<i>d/b/a for Evansville Automotive (LEX), LLC</i>)	96%	BH Auto	5600 Division Street	Evansville	IN	47715	X
Kenny Kent Scion		BH Auto	5600 Division Street	Evansville	IN	47715	X
Kenny Kent Toyota (<i>d/b/a for Evansville Automotive, LLC</i>)	96%	BH Auto	5600 Division Street	Evansville	IN	47715	X
Kerite LLC	100%	Marmon	50 Weston Street	Hartford	CT	06120	X
KFG Management Services LLC	26.86%	Kraft Heinz					X
KFG Netherlands Holdings C.V.	26.86%	Kraft Heinz					X
Kidney Care Services, LLC	17.95%	DaVita Healthcare	380 Jackson St., #700	St. Paul	MN	55101	X
Kidney Centers of Michigan, LLC	17.95%	DaVita Healthcare	7960 Grand River Road	Brighton	MI	48114	X
Kidney Home Center, LLC	17.95%	DaVita Healthcare	6934 Aviation Blvd, Suite H	Glen Burnie	MD	21061	X
Kimball Dialysis, LLC	17.95%	DaVita Healthcare	920 S Washington Avenue	Scranton	PA	18505	X
Kingston Inc.		Scott Fetzer	2268 Fairview Blvd	Fairview	TN	37062	X
Kinswa Dialysis, LLC	17.95%	DaVita Healthcare	100 Pinnacle Drive	Fremont	OH	43420	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Kirby (d/b/a for Scott Fetzer Company)	100%	Scott Fetzer	1920 West 114th Street	Cleveland	OH	44102	X
Kirby Group Pty. Ltd.	100%	Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X
Kirby UK Limited		Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X
KIS Pricing, Inc.	12.07%	Moody's			Korea		X
KMS Ltd.	51%	Shaw	12 rue ngoussou , Yaounde		Cameroon		X
Knickerbocker Dialysis, Inc.	17.95%	DaVita Healthcare	2050 E Main St, Suite 15	Cortlandt Manor	NY	10567	X
Knorring OY		TaeguTec	Karvaamokuja 6	Helsinki	Finland	00380	X
Kobuk Dialysis, LLC	17.95%	DaVita Healthcare	1005 Pennsylvania Ave, Ste 101	Ottumwa	IA	52501	X
Koehler-Bright Star LLC	100%	Marmon	380 Stewart Road	Hanover Township	PA	18706	X
Kölnische Rück Buenos Aires S.A.		General Re		Buenos Aires	Argentina		X
Kölnische Rückversicherungs-Gesellschaft AG, Escritório de representação no Brasil Ltda.		General Re	Av. das Nações Unidas, 14.171 - 15º andar, Edifício Rochaverá - Ivory Tower - Morumbi	São Paulo, SP	Brazil	04795-100	X
Kölnische Rückversicherungs-Gesellschaft AG, Niederlassung Wien		General Re	Renngasse 6-8	Vienna	Austria		X
Kölnische Versicherungs-Beratungs-und Service GmbH		General Re		Cologne	Germany		X
Koninklijke De Ruijter B.V.	26.86%	Kraft Heinz	Arnhemsebovenweg 160	Zeist	Netherlands	3708AH	X
Korea Investors Service, Inc.	12.07%	Moody's	63 BD, 55th floor, Yeouido-dong	Yeongdeungpo-gu, Seoul	Korea		X
Kova Finland OY	100%	MiTek	Keilaranta 4, 4.krs	Espoo	Finland	02150	X
Kova Solutions Inc.	100%	MiTek	400 Trade Center, Suite 5900	Woburn	MA	01801	X
Kraft Canada Inc.	26.86%	Kraft Heinz	95 Moatfield Drive	Don Mills	Ontario, Canada	M3B 3L6	X
Kraft Food Ingredients Corp.	26.86%	Kraft Heinz	8000 Horizon Center Boulevard	Memphis	TN	38133	X
Kraft Foods Group Brands LLC	26.86%	Kraft Heinz	Three Lakes Drive	Northfield	IL	60093	X
Kraft Foods Group Exports LLC	26.86%	Kraft Heinz	50 New Commerce Blvd, Suite 200	Wilkes Barre	PA	18762	X
Kraft Foods Group Foundation	26.86%	Kraft Heinz	3 Pkwy. North Blvd.	Deerfield	IL	60015	X
Kraft Foods Group Holdings LLC	26.86%	Kraft Heinz					X
Kraft Foods Group International Holdings LLC	26.86%	Kraft Heinz					X

BERKSHIRE HATHAWAY INC. (10% and greater)

Kraft Foods Group Netherlands Holdings B.V.	26.86%	Kraft Heinz	Three Lakes Drive	Northfield	IL	60093	X
Kraft Foods Group Puerto Rico LLC	26.86%	Kraft Heinz	9615 Ave Los Romeros, Ste 81	San Juan	Puerto Rico	00926-7036	X
Kraft Heinz Foods Company	26.86%	Kraft Heinz	1 PPG Place, Suite 3100	Pittsburgh	PA	15222	X
Kraft New Services, Inc.	26.86%	Kraft Heinz					X
KS Acquisition Inc.		MiTek					X
KTVT Motors, LLC	96%	BH Auto	1441 South Federal Highway	Deerfield Beach	FL	33441	X
Kunshan Ecowater Systems Company Limited		Marmon	483 San Xiang Road	Kunshan	China	215335	X
KX Technologies LLC		Marmon	55 Railroad Avenue	West Haven	CT	06516	X
KX Technologies Pte Ltd.		Marmon	2 Serangoon Nth Ave 5	Singapore	Singapore	554911	X
Kyoei Fire & Marine Insurance Co. Limited		National Indemnity	40 Basinghall Street City Tower Level 4	London	England	EC2V 5DE	X
L&W Supply Corporation	29.95%	USG	550 W. Adams Street	Chicago	IL	60661	X
L.A. Darling Company LLC	100%	Marmon	1401 Highway 49B North	Paragould	AR	72450	X
L.A. Darling Services, S.A. de C.V.	100%	Marmon	Bosque de Durazno 65-1109	Bosques de las Lomas	México D.F.	CP 11700	X
L.A. Darling, S.A. de C.V.		Marmon	Bosque de Durazno 65-1109	Bosques de las Lomas	México D.F.	CP 11700	X
L.A. Estilos, C. por A.		Richline Group	Z F San Pedro	San Pedro de Macoris	Dominican Republic		X
L.A. Terminals, Inc.	100%	National Indemnity	560 Pier A Place	Wilmington	CA	90744	X
L.D.B. Diffusion S.A.		Vanity Fair	38 Seyssinet-Pariset		France		X
La Bonne Cuisine Limited	26.86%	Kraft Heinz	513 King Street North	Hastings	New Zealand		X
La Parisienne de Distribution SARL			53, Boulevard Paul Langevin	Fontaine	France	38601	X
La Vista Sun (d/b/a for Suburban Newspapers, Inc.)	100%	BH Media	1413 S Washington	Papillion	NE	68046	X
Laake GmbH	100%	CTB International	Bawinkeler Straße 3	Langen	Germany	49838	X
Lake City News & Post	100%	BH Media	P.O. Box 429	Lake City	SC	29560	X
Lake Norman Navigator	100%	BH Media	P.O. Box 300	Mooreville	NC	28115	X
Lakeshore Dialysis, LLC	17.95%	DaVita Healthcare	4750 N Main Street	Dayton	OH	45405	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Lamapetec Manufacturing, Limitada, de C.V.	100%	Fruit of the Loom	American Park Free Zone KM 36 1/2 Carretera A Santa An	Santa Ana	El Salvadore		X
Land Partners One, LLC	100%	Shaw	P. O. Drawer 2128	Dalton	GA	30722-2128	X
Land Partners Two, LLC	100%	Shaw	100 North Main Street	Winston-Salem	NC	27101	X
Landing Dialysis, LLC	17.95%	DaVita Healthcare	2563 W 8th Street	Erie	PA	16505	X
Langtech Citrus Pty. Limited	26.86%	Kraft Heinz		Melbourne	Victoria, Australia		X
Lanzhou Lubrizol - Lanlian Additive Co. Ltd.	50%	Lubrizol	No.10, Yumen Street	Xigu District	China		X
Lapham Dialysis, LLC	17.95%	DaVita Healthcare	449 Industrial Blvd Suite 245	Ellijay	GA	30540	X
Larson-Juhl A.S.	100%	Larson Juhl	Stålfjæra 12	Oslo	Norway	0975	X
Larson-Juhl Australia LLC	100%	Larson Juhl	Kings Park Industrial Estate, 5 Goulburn Stree	Kings Park	Wales, Australia	2148	
Larson-Juhl Canada Ltd.	100%	Larson Juhl	5830 Coopers Avenue	Mississauga	Ontario, Canada	L4Z 1Y3	X
Larson-Juhl France LLC	100%	Larson Juhl	3900 Steve Reynolds Blvd.	Norcross	GA	30093	X
Larson-Juhl France S.A.R.L.	100%	Larson Juhl	232 Rue de Viewx	Berquin Hazebrouk	France	59190	X
Larson-Juhl International LLC	100%	Larson Juhl	3900 Steve Reynolds Blvd.	Norcross	GA	30093	X
Larson-Juhl Korea, Limited	100%	Larson Juhl	460-1, Yountae-ri, Wolong-myun, Paju-si, Kyunggi-do	Seoul	Korea		X
Larson-Juhl Netherlands B.V.	100%	Larson Juhl	Energieweg 23, 3771NA	Barneveld	Netherlands		X
Larson-Juhl New Zealand Limited	100%	Larson Juhl	12 Mahunga Drive	Mangere	Auckland New Zealand		X
Larson-Juhl Nippon Co., Ltd.	100%	Larson Juhl	Takanawa Kaisei Building 3F 3-4-1 Takanawa	Minato-ku	Tokyo Japan	108-0074	X
Larson-Juhl OY	100%	Larson Juhl	Helletorpankatu 37	Hyvinkää	Finland	5840	X
Larson-Juhl Qingdao Co. Ltd.	100%	Larson Juhl	Jilonggpo Road No. 6-2 Free Trade Zone	Qingdao	China		X
Larson-Juhl South Africa LLC	100%	Larson Juhl	3900 Steve Reynolds Blvd.	Norcross	GA	30093	
Larson-Juhl Sweden A.B.	100%	Larson Juhl	Lindovagen 15, P.O. Box 2073	Sommen	Sweden	S-57302	X
Larson-Juhl US LLC	100%	Larson Juhl	3900 Steve Reynolds Blvd.	Norcross	GA	30093	X
Las Olas De Sequoia, LLC	17.95%	DaVita Healthcare	6766 W Sunrise Blvd, Ste 100	Plantation	FL	33313	X
Las Vegas Pediatric Dialysis, LLC	17.95%	DaVita Healthcare	7271 W. Sahara Ave, Suite 120	Las Vegas	NV	89117	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Las Vegas Solari Hospice Care LLC	17.95%	DaVita Healthcare					X
Lassen Dialysis, LLC	17.95%	DaVita Healthcare	18236 Fort Street	Riverview	MI	48193	X
Lathrop Dialysis, LLC	17.95%	DaVita Healthcare	3812 E Belknap Street	Fort Worth	TX	76111	X
Latrobe Dialysis, LLC	17.95%	DaVita Healthcare	101 Med Tech Pkwy Ste 406	Johnson City	TN	37604	X
Lawrenceburg Dialysis, LLC	17.95%	DaVita Healthcare	721 Rudolph Way	Greendale	IN	47025	X
LB Luxembourg Two S.a.r.l.	14.65%	American Express	Heienhaff 1 B	Senningerberg	Luxembourg	1736	X
Lea & Perrins Limited	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	X
Lea & Perrins, Inc.	26.86%	Kraft Heinz	15-01 Pollitt Drive	Fair Lawn	NJ	07410	X
Leach & Garner (Guangzhou) Limited	100%	Richline Group	3/F Factory Bldg, No.3 A1 Sha Wan Jewelry Ind.Park, 99 Fook Lung Main Rd	Sha Wan Panyu District, Guangzhou	China	511483	X
Leach & Garner (HK) Limited	100%	Richline Group	Unit 611, 6/FL, Tower I, Harbour Center, 1 Hok Cheung Street	Hunghom, Kowloon	Hong Kong		X
LeachGardner		Richline Group	49 Pearl St	Attleboro	MA	02703	X
Leader Industries LLC	100%	Marmon	P.O. Box 40913	Nashville	TN	37204	X
Leader Metal Industry Co., Ltd.		Marmon	Longshi District, Wuguishan	Zhongshan City	Guangdong Province, China	528458	X
Leasburg Dialysis, LLC	17.95%	DaVita Healthcare	12855 N 40 DR, Suite LL4	St. Louis	MO	63141	X
Leesburg Knitting Mills, Inc.		Fruit of the Loom	Highway 68 W.	Leesburg	AL	35983	X
Leesburg Yarn Mills, Inc.	100%	Fruit of the Loom	Highway 68 W.	Leesburg	AL	35983	X
LeMar Industries Corp.		CTB International	2070 NE 60th Avenue	Des Moines	IA	50313	X
Lempa Services, Limitada, de C.V.	100%	Fruit of the Loom		Santa Ana	El Salvadore		X
Lewtan Australia Pty. Ltd.	12.07%	Moody's	Level 26, 1 Bligh Street	Sydney	Australia	NSW 2000	X
Lewtan Technologies, Inc.	12.07%	Moody's	410 Totten Pond Rd, 4th Floor	Waltham	MA	02451	X
Lewtan Technologies, Ltd.	12.07%	Moody's	St. Mary At Hill 11-15	London	England	EC3R 8EE	X
Lexington Clipper-Herald (d/b/a for Lexington Newspaper Company, Inc.)	100%	BH Media	114 W. Fifth Street	Lexington	NE	68850	X
Lexington Newspaper Company, Inc.	100%	BH Media	114 W. Fifth Street	Lexington	NE	68850	X
Lexington Publishing Company, Inc.	100%	BH Media	131 Swartz Road	Lexington	SC	29072	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Liberty King, Inc. (50% thru HJH Overseas LLC)	13.43%	Kraft Heinz	2241 Kettner Blvd. Suite 200	San Diego	CA	92101	
Liberty RC, Inc.	17.95%	DaVita Healthcare	1461 Kensington Avenue	Buffalo	NY	14215	X
Lietor Sp. z.o.o.	17.95%	DaVita Healthcare		Warsaw	Poland		X
Lifeline Pensacola, LLC	17.95%	DaVita Healthcare	3 W Hawthorn Pkwy Suite 410	Vernon Hills	IL	60061	X
Lifeline Vascular Center - Orlando, LLC	17.95%	DaVita Healthcare	337 S Northlake Blvd, Ste 1002	Altamonte Springs	FL	32701	X
Lifeline Vascular Center of South Orlando, LLC	17.95%	DaVita Healthcare	1511 Sligh Blvd, Suite A	Orlando	FL	32806	X
Lighthouse Dialysis, LLC	17.95%	DaVita Healthcare	1345 W Bush Street	Lemoore	CA	93245	X
Limon Dialysis, LLC	17.95%	DaVita Healthcare	5701 Silver Hill Road	District Heights	MD	20747	X
Lincoln Park Dialysis Services, Inc.	17.95%	DaVita Healthcare	3157 North Lincoln Avenue	Chicago	IL	60657	X
Lincolnton Dialysis, LLC	17.95%	DaVita Healthcare	10994 Baltimore Street NE	Blaine	MN	55449	X
Linden Urban Renewal Limited Partnership	11.4%	Phillips 66		Linden	NJ		X
Lindenau Full Tank Services GmbH	100%	Marmon	Im Waldeich 9	Oberhausen	Germany	46147	X
Lipofoods, SL	100%	Lubrizol	Isaac Peral 17 Poligon Cami Ral	Gavà	Spain	08850	X
Lipotec Distribucion, SLU	100%	Lubrizol	Isaac Peral 17 Poligon Cami Ral	Gavà	Spain	08850	X
Lipotec GmbH	100%	Lubrizol	Nassaustrasse 3	Hofheim-Wallau	Germany	65719	X
Lipotec Group Corp.	100%	Lubrizol		Wickliffe	OH		X
Lipotec LLC	100%	Lubrizol	2500 Plaza 5 Harborside Financial Center	Jersey City	NJ	07311	X
Lipotec Pty. Ltd.	100%	Lubrizol	Suite 308/49 Queens Road	Five Dock	Australia	NSW 2046	X
Lipotec S.A.	100%	Lubrizol	Isaac Peral 17 Poligon Cami Ral	Gavà	Spain	08850	X
Lipotec SAS	100%	Lubrizol	Immeuble Citicenter - Tour Elysées la Défense -19, Le Parvis	Paris	France	92073	X
Lipotec SRL	100%	Lubrizol	Via Morgagni 10	Bologna	Italy	40122	X
LIRA, Obrazove listy a ramy, a.s.	94.8%	Larson Juhl	Tovární 117, 38117 Český	Krumlov	Czech Republic		X
Little Rock Dialysis Centers, LLC	17.95%	DaVita Healthcare	4505 East McCain Blvd	North Little Rock	AR	72117	X
Livingston Dialysis, LLC	17.95%	DaVita Healthcare	4900 Forest Hill Avenue	Richmond	VA	23225	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Livingston Senior Housing, L.P.	99.99%	National Indemnity	1025 Livingston Road	Livingston	TN	38555	X
Livonia Building Materials Co. (d/b/a for L&W Supply Corporation)	29.95%	USG	33900 Concord Street	Livonia	MI	48150	X
Llano Dialysis, LLC	17.95%	DaVita Healthcare	560 1st St Ste 103, Bldg D	Benicia	CA	94510	X
LMG Ventures, LLC	80.1%	Nebraska Furniture Mart	401 N Michigan Ave # 1200	Chicago	IL	60611	X
Lockhart Dialysis, LLC	17.95%	DaVita Healthcare	330 S Lola Lane, Ste 100	Pahrump	NV	89048	X
Lockport Dialysis, LLC	17.95%	DaVita Healthcare	16626 W 159th St, Suite 703	Lockport	IL	60441	X
Lockwood Street Urban Renewal Corporation	100%	Marmon	72 Lockwood Street	Newark	NJ	07102	X
Lofts at Roberts, LLC	99.99%	National Indemnity	9349 Waterstone Blvd	Cincinnati	OH	45249	X
Logan 24, LP	99.99%	National Indemnity	4711 Southern Hills Drive	Sioux City	IA	51106	X
Logan Herald-Observer (d/b/a for Southwest Iowa Newspapers, Inc.)	100%	BH Media	107 N. Fourth Ave., Suite 3	Logan	IA	51546	X
London Decorating Centre Ltd.	63.60%	Benjamin Moore	1009 Wonderland Rd. South	London	ON	N6K 3V1	X
London Reinsurance Company Holdings Limited		National Indemnity	264 George Street	Sydney	Australia	NSW 2000	X
Lone Dialysis, LLC	17.95%	DaVita Healthcare	4407 E 50th Terrace	Kansas City	MO	64130	X
Lone Star Buick-GMC II, LLC	86%	BH Auto	3950 S Central Expy	McKinney	TX	75069	X
Long Beach Dialysis Center, LLC	17.95%	DaVita Healthcare	3744 Long Beach Blvd	Long Beach	CA	90807	X
Longview Switching Company	50%	BNSF Railway	115 Industrial Way	Longview	WA	98632	X
Longworth Dialysis, LLC	17.95%	DaVita Healthcare	3254 Brushy Creek Rd, Ste A	Greer	SC	29650	X
Lord Baltimore Dialysis, LLC	17.95%	DaVita Healthcare	2245 Rolling Run Drive	Windsor Mill	MD	21244	X
Loretta Hall, LP	98.99%	Affordable Housing	763 S. New Ballas Rd, Ste 300	St. Louis	MO	63141	X
Lory Dialysis, LLC	17.95%	DaVita Healthcare	65 S Terrace Avenue	Newark	OH	43055	X
Los Angeles Dialysis Center	17.95%	DaVita Healthcare	2250 S. Western Avenue	Los Angeles	CA	90018	X
Los Angeles Junction Railway Company	100%	BNSF Railway	4433 Exchange Avenue	Los Angeles	CA	90058-2622	X
Los Arcos Dialysis, LLC	17.95%	DaVita Healthcare	3200 Cooper Foster Park Rd W	Lorain	OH	44053	X
Loup Dialysis, LLC	17.95%	DaVita Healthcare	1011 Bowles Ave, Suite 210	Fenton	MO	63026	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Lourdes Dialysis, LLC	17.95%	DaVita Healthcare	7560 Red Bug Lake Road Suite 1048	Oviedo	FL	32765	X
Lowell Shoe, Inc.		H. H. Brown	8 Hampshire Drive	Hudson	NH	03051	X
Loyalty Partner GmbH	14.65%	American Express	Theresienhöhe 12	Munich	Germany	80339	X
Loyalty Partner Holdings B.V.	14.65%	American Express			Netherlands		X
Loyalty Partner Holdings S.A.	14.65%	American Express	Theresienhöhe 12	Munich	Germany		X
Loyalty Partner Polska Sp. z.o.o.	14.65%	American Express	Building SkyLight, ul. Gold 59	Warsaw	Poland	00-120	X
Loyalty Partner Polska Sp. z.o.o. Sp komandytowa	14.65%	American Express			Poland		X
Loyalty Partner Services Mexico, S. de R.L. de C.V.	14.65%	American Express			Mexico		X
Loyalty Partner Singapore Pte Ltd.	14.65%	American Express			Singapore		X
Loyalty Partner Solutions GmbH	14.65%	American Express	Theresienhöhe 12	Munich	Germany	80339	X
Loyalty Solutions & Research Pte Ltd.	14.65%	American Express	Florence Building, Opp. Vakola Church, J L Nehru Road	Vakola, Santacruz	Mumbai	400 055	X
LP Management Beteiligung GmbH & Co. KG	14.65%	American Express	Theresienhöhe 12	Munich	Germany	80339	X
LP Management Verwaltung GmbH	14.65%	American Express	Theresienhöhe 12	Munich	Germany	80339	X
LSP Holding, Inc.	100%	Lubrizol					
LSP Transport, LLC	100%	Lubrizol					X
Lubricant Investments, Inc.	100%	Lubrizol	29400 Lakeland Boulevard	Wickliffe	OH	44092	X
Lubrizol (Gibraltar) Limited	100%	Lubrizol			Gibraltar		X
Lubrizol (Gibraltar) Limited Luxembourg SCS	100%	Lubrizol			Gibraltar		X
Lubrizol (Gibraltar) Minority Limited	100%	Lubrizol			Gibraltar		X
Lubrizol (Gibraltar) Two Limited	100%	Lubrizol			Gibraltar		X
Lubrizol A.G.	100%	Lubrizol	c/o Interconsulta Revisions- und Treuhand AG, Poststrasse 9	Zug	Switzerland	6300	X
Lubrizol Additive (Zhuhai) Co., Ltd.	100%	Lubrizol		Zhuhai	China		X
Lubrizol Additives India Private Limited	100%	Lubrizol	17th Floor, Nirmal Building, Nariman Point	Mumbai	Maharashtra India	400021	X
Lubrizol Adibis (UK) Limited	100%	Lubrizol	The Knowle	Derby	United Kingdom	DE56 4AN	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Lubrizol Adibis Holdings (UK) Limited	100%	Lubrizol	Palm Ct, 4 Heron Sq	Richmond	United Kingdom	TW9 1EW	X
Lubrizol Advanced Materials China, Inc.	100%	Lubrizol	29400 Lakeland Boulevard	Wickliffe	OH	44092	X
Lubrizol Advanced Materials Diamalt GmbH & Co. KG	100%	Lubrizol	Max-Planck-Str. 6	Ritterhude	Germany	27721	X
Lubrizol Advanced Materials Europe BVBA	100%	Lubrizol	Chaussee de Wavre 1945	Brussels	Belgium	1160	X
Lubrizol Advanced Materials FCC, Inc.	100%	Lubrizol	29400 Lakeland Boulevard	Wickliffe	OH	44092	X
Lubrizol Advanced Materials France SA	100%	Lubrizol	25 Quai de France	Rouen	France	76100	X
Lubrizol Advanced Materials Gibraltar, Inc.	100%	Lubrizol	1209 N Orange St.	Wilmington	DE	19801	X
Lubrizol Advanced Materials Holding Corporation	100%	Lubrizol					X
Lubrizol Advanced Materials Holdings Deutschland GmbH	100%	Lubrizol	Max-Planck-Straße 6	Ritterhude	Germany	27721	X
Lubrizol Advanced Materials Holdings Spain, S.L.	100%	Lubrizol	Camí de Can Caldes, 13, Sant Cugat del Vallès	Barcelona	Spain	08190	X
Lubrizol Advanced Materials Holdings UK Limited	100%	Lubrizol	The Knowle, Nether Lane Hazelwood	Derby, Derbyshire	UK	DE56 4AN	X
Lubrizol Advanced Materials Hong Kong Limited	100%	Lubrizol	1107 1110 Shui On Ctr 6 8 Harbour Rd Wai Chai		Hong Kong		X
Lubrizol Advanced Materials India Private Limited	100%	Lubrizol	5th Floor, Omega, Hiranandani Business Park	Mumbai	Maharashtra India	400076	X
Lubrizol Advanced Materials International, Inc.	100%	Lubrizol	9911 Brecksville Road	Cleveland	OH	44141	X
Lubrizol Advanced Materials Korea, Inc.		Lubrizol	1F Haesung Building 747 2 Yeoksam-1 Dong	Kangnam-ku, Seoul	South Korea	135-081	X
Lubrizol Advanced Materials Malaysia Sdn. Bhd.	100%	Lubrizol	Lot 54, Persiaran Bunga Tanjung 1, Senawang Indus. Pk	Negeri Sembilan	Malaysia	70400	X
Lubrizol Advanced Materials Manufacturing Spain, S.L.	100%	Lubrizol	Cí. Can Calders, 13	St. Cugat del Valles, Barcelona	Spain	08173	X
Lubrizol Advanced Materials Manufacturing UK Limited	100%	Lubrizol	The Knowle, Nether Lane Hazelwood, Derby	Derbyshire	United Kingdom	DE21 5BR	X
Lubrizol Advanced Materials Netherlands B.V.	100%	Lubrizol	Oosterhorn 4	Farmsum, Delfzijl, Groningen	Netherlands	9936 HD	X
Lubrizol Advanced Materials Realty Europe BVBA	100%	Lubrizol	Waversesteenweg 1945	Brussels	Belgium	1160	X
Lubrizol Advanced Materials Resin B.V.	100%	Lubrizol	Oosterhorn 4	Farmsum, Delfzijl, Groningen	Netherlands	9936 HD	X
Lubrizol Advanced Materials Sales Holland B.V.	100%	Lubrizol	Oosterhorn 4	Farmsum, Delfzijl, Groningen	Netherlands	9936 HD	X
Lubrizol Advanced Materials Sales Spain, S.L.	100%	Lubrizol	Camino Can Calders 13	Sant Cugat del Valles	Spain	8173	X
Lubrizol Advanced Materials Sweden AB	100%	Lubrizol	Box 184	Gothenburg	Sweden	40123	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Lubrizol Advanced Materials UK Limited	100%	Lubrizol	Carlton Industrial Estate, Albion Road, Carlton, Barnesley	South Yorkshire	UK	371 3HW	X
Lubrizol Advanced Materials, Inc.	100%	Lubrizol	9911 Brecksville Road	Cleveland	OH	44141	X
Lubrizol Canada Limited	100%	Lubrizol	277 Lakeshore Rd E	Oakville	Ontario, Canada	L6J 6J3	X
Lubrizol de Mexico Comercial S. de R.L. de C.V.	100%	Lubrizol	Montes Urales #215, Col. Lomas de Chapultepec	Delegacion Miguel Hidalgo	Mexico	D.F. c.p. 11000	X
Lubrizol de Venezuela C.A.	100%	Lubrizol	Zona Industrial Castillito Av Blvd Norte Cc, El Condor Galpon 5 Valencia Estado	Carabobo	Venezuela		X
Lubrizol Deutschland GmbH	100%	Lubrizol	Billbrookdeich 157	Hamburg	Germany	22113	X
Lubrizol do Brasil Aditivos Ltda.	100%	Lubrizol	Estrada Belford Roxo 1375	Belford Roxo	Brazil	26110-260	X
Lubrizol Enterprises, Inc.	100%	Lubrizol	29400 Lakeland Boulevard	Wickliffe	OH	44092	X
Lubrizol Espanola S.A.	100%	Lubrizol	Bravo Murillo, 29 –1° Centro	Madrid	Spain	28015	X
Lubrizol Europe Coordination Center BVBA	100%	Lubrizol	Waversesteenweg 1945	Brussels	Belgium	1160	X
Lubrizol Europe, LLC	100%	Lubrizol					X
Lubrizol France SAS	100%	Lubrizol	Elysées defence, 19 le Parvis	Paris	France	92073	X
Lubrizol Gesellschaft m.b.H.	100%	Lubrizol	Mariahilferstraße 103/3/55-56	Wien	Austria	1060	X
Lubrizol Holding Inc.		Lubrizol	29400 Lakeland Boulevard	Wickliffe	OH	44092	X
Lubrizol Holdings France SAS	100%	Lubrizol	25 quai de France	Rouen	France	76 100	X
Lubrizol India Private Limited	50%	Lubrizol	Vip House, 2nd Floor 88-C Old Prabhadevi Road	Mumbai	India	400 025	X
Lubrizol Inter-Americas Corporation	100%	Lubrizol	29400 Lakeland Boulevard	Wickliffe	OH	44092	X
Lubrizol International Management Corporation	100%	Lubrizol	29400 Lakeland Boulevard	Wickliffe	OH	44092	X
Lubrizol International Trading (Zhuhai) Co., Ltd.	100%	Lubrizol			China		X
Lubrizol International, Inc.	100%	Lubrizol	28 River Street	Silverwater	Australia	NSW 2128	X
Lubrizol Italia S.r.l.	100%	Lubrizol	viale Gian Galeazzo 25	Milano	Italy	20136	X
Lubrizol Japan Limited	100%	Lubrizol	1-1 5-gochi, Taketoyo-cho, Chita-gun	Aichi	Japan	470-2341	X
Lubrizol Korea, Inc.	100%	Lubrizol	Rm. 803, Taeyoung Bldg.	Kongduk-dong Mapo-gu Seoul	South Korea	121-717	X
Lubrizol Limited	100%	Lubrizol	The Knowle, Nether Lane Hazelwood, Derby	Derbyshire	UK	DE56 4AN	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Lubrizol Luxembourg S.a.r.l.	100%	Lubrizol	12 Rue Eugène Ruppert	Luxembourg		2453	X
Lubrizol Management (Shanghai) Co. Ltd.	100%	Lubrizol		Shanghai	China		X
Lubrizol Oilfield Chemistry, LLC	100%	Lubrizol	2000 West Sam Houston Pkwy South, Suite 400	Houston	TX	77042	X
Lubrizol Oilfield Solutions, Inc.	100%	Lubrizol	4420 S Flores Road	Elmendorf	TX	78112	X
Lubrizol Overseas Trading Corporation	100%	Lubrizol	29400 Lakeland Boulevard	Wickliffe	OH	44092	X
Lubrizol Overseas Trading Corporation & Co. KG	100%	Lubrizol	Max-Planck-Str. 6	Ritterhude	Germany	27721	X
Lubrizol Servicios Tecnicos, S. de R.L. de C.V.	100%	Lubrizol	Av Interceptor Poniente No 69	Cuautitlan Izcalli	Mexico	54730	X
Lubrizol Shanghai Investments I Limited	100%	Lubrizol			Hong Kong		X
Lubrizol Shanghai Investments II Limited	100%	Lubrizol			Hong Kong		X
Lubrizol Shanghai Investments III Limited	100%	Lubrizol			Hong Kong		X
Lubrizol South Africa (Pty) Limited	100%	Lubrizol	10-12 Joyner Road	Isipingo	Kwazulu-Natal South Africa	4110	X
Lubrizol Southeast Asia (Pte.) Ltd.	100%	Lubrizol	44 Tanjong Penjuru	Singapore		609032	X
Lubrizol Specialty Chemicals (Shanghai) Co. Ltd.	100%	Lubrizol	10F, Park Center International, 1088 Fang Dian Road	Shanghai	PR China	201204	X
Lubrizol Specialty Chemicals Manufacturing (Shanghai) Co., Ltd.	100%	Lubrizol	No. 300 Shu Hui Road, Song Jiang District	Shanghai	PR China	201611	X
Lubrizol Specialty Products KAZ LLP	100%	Lubrizol			Kazakhstan		X
Lubrizol Specialty Products RUS LLC	99.99%	Lubrizol		Novorossiysk	Krasnodar Krai Russia		X
Lubrizol Specialty Products, Inc.	100%	Lubrizol	Houston Parkway South, 3rd Floor, Suite 320	Houston	TX	77042	X
Lubrizol Transarabian Company Limited	49%	Lubrizol	Al Imman Center Bldg., 1st Floor Madina Road	Jeddah, Makkah	Saudi Arabia	21511	X
Luke Motor Company II, LLC	81%	BH Auto	1104 W Interstate 20	Arlington	TX	76017	X
Lurleen Dialysis, LLC	17.95%	DaVita Healthcare	365 Quartermaster Ct	Jeffersonville	IN	47130	X
Lutkin Bayou Drew L.P.	99.99%	National Indemnity	506 South President Street	Jackson	MS	39201	X
LVN Motors, LLC	78%	BH Auto	7801 E Frnk L Wright Blvd	Scottsdale	AZ	85260	X
Lynchburg Media Group	100%	BH Media	101 Wyndale Drive	Lynchburg	VA	24501	X
LZ Holding Corporation	100%	Lubrizol	29400 Lakeland Boulevard	Wickliffe	OH	44092	X

BERKSHIRE HATHAWAY INC. (10% and greater)

LZHS Spain, S.L.	100%	Lubrizol	Camino Can Calders 13, Sant Cugat Del Valles	Barcelona	Spain	08173	X
M & C Products, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	
M & M Manufacturing Company	100%	MiTek	4001 Mark IV Parkway	Fort Worth	TX	76106	X
M & S Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	12450 Beard Avenue, S.	Burnsville	MN	55337	X
M T Properties, Inc.	43.3%	BNSF Railway	475 Cleveland Ave N	St. Paul	MN	55104	X
M&M Manufacturing, LLC	100%	MiTek	360 South Shiloh Road	Garland	TX	75042	X
M&M Tradition Holdings Corp.	100%	MiTek	4001 Mark IV Parkway	Fort Worth	TX	76106	X
M.J. Tullberg & Co. Limited		National Indemnity	Birchin Court, 20 Birchin Lane	London	England	EC3V9HN	X
M/K Express Company LLC	100%	Marmon	780 East Butler Road	East Butler	PA	16029-0509	X
M/K Express Services Company LLC	100%	Marmon	780 East Butler Road	East Butler	PA	16029-0509	X
Macro Retailing, LLC	100%	HH Brown	10365 Mt. Savage Road	Cumberland	MD	21502	X
Madera Flores S.R.L.	100%	Shaw		Asuncion	Paraguay		
Madison County Eagle	100%	BH Media	P.O. Box 325	Madison	VA	22727	X
Madison Leasing, S.A. de C.V.	100%	Marmon	Ricon de Tamayo Km 8.5, Ferropuerto del Bajio	Celaya, GTO	Mexico	38060	X
Mador, S.A.		Richline Group	Autopista San Isidro Km 17	Santo Domingo	Dominican Republic		X
Magnolia Group Limited	100%	Larson Juhl	2 Wolseley Road, Kempston	Bedford	UK	MK42 7AD	X
Magnolia Ventures, LLC	100%	Fruit of the Loom	704 Wood Gate Dr	Madison	MS	39110-8871	X
Mahoney Dialysis, LLC	17.95%	DaVita Healthcare	491 Colemans Crossing	Marysville	OH	43040	X
Majestic 21	50%	Clayton Homes	620 Market St., Ste. 100	Knoxville	TN	37902	X
Mall of Georgia Ford (d/b/a for GAWVT Motors, LLC)	96%	BH Auto	4525 Nelson Brogdon Blvd.	Buford	GA	30518	X
Mammoth Dialysis, LLC	17.95%	DaVita Healthcare	14358 N Dale Mabry Hwy	Tampa	FL	33618	X
Mandataria General Re, S.A.		General Re		Buenos Aires	Argentina		X
Manufacturas Villanueva S. de R.L. e C.V.	100%	Fruit of the Loom		San Pedro Sula	Honduras		X
Manville Mexicana S.A. de C.V.	100%	Johns Manville	Lot 13 Manzana 4, Parque De La Pequena Y Mediana Industria	Altamira	Tamaulipas Mexico	89600	

BERKSHIRE HATHAWAY INC. (10% and greater)

Manzano Dialysis, LLC	17.95%	DaVita Healthcare	1266 N Broad Street	Fairborn	OH	45324	X
Map Ta Phut Specialty Chemical Co., Ltd.	50%	Lubrizol	968 12th Floor, U-Chuliang Building, Rama 4 Road, Silom,	Bangrak, Bangkok	Thailand	10500	X
Mapijorvi S.L.		Fruit of the Loom	Barcelona Av 101	Igualada, Barcelona	Spain		X
Maple Grove Dialysis, LLC	17.95%	DaVita Healthcare	15655 Grove Cir N	Maple Grove	MN	55369	X
Maples Dialysis, LLC	17.95%	DaVita Healthcare	1420 West Keiser Avenue	Osceola	AR	72370	X
Mapletree Transportation, Inc.	100%	Forest River, Inc.	55470 County Rd. 1, P.O. Box 3030	Elkhart	IN	46515-3030	X
Marathon Spring & Services, SA de C.V.		Marmon		García	Nuevo León, México		X
Marathon Suspension Systems, Inc.	100%	Marmon	601 Abbot Road	East Lansing	MI	48823	X
Marcap Corporation			200 West Jackson Boulevard	Chicago	IL	60606	X
Marcap Holdings Corporation			Pasea Estate	Road Town	British Virgin Islands		X
Marcap Vendor Finance Corp.		Marmon	9665 Chesapeake Drive	San Diego	CA	92123	X
MarineSafety International, Inc.		FlightSafety	Lagarita Airport	Flushing	NY	11372	X
Marion Star & Mullins Enterprise		BH Media	211 Railroad Ave	Marion	SC	29571	X
Marlborough Pension Trustee Limited		National Indemnity			UK		X
Marlborough Underwriting Agency Limited		National Indemnity	Birchin Court, 20 Birchin Lane	London	UK	EC3V 9DU	X
Marlton Dialysis Center, LLC	17.95%	DaVita Healthcare	769 E Route 70, Suite C100	Marlton	NJ	08053	X
Marmon (UK) Limited		Marmon	2-20 Booth Dr Pk Farm, Estate	Wellingborough, Northamptonshire	UK		X
Marmon Beverage Technologies Espana, S.A.	100%	Marmon	Carretera de Hospitalet no. 147 - 149, Edificio Berlin, 2nd planta izquierda	Cornellà de Llobregat, Barcelona	Spain	08940	X
Marmon Beverage Technologies, Inc.	100%	Marmon		Osseo	MN		X
Marmon Brasil – Comercio De Gondolas E Expositores	100%	Marmon	Das Palmeiras 350, A	Capela Velha, Araucaria	Paraná, Brasil		X
Marmon Construction Services (Australia) Holdings Pty Ltd.	100%	Marmon	Level 1	Henderson	Western Australia	6166	X
Marmon Construction Services LLC		Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Cornelius (Singapore) Pte. Ltd.	100%	Marmon	1A International Business Pk Suite 06-02	Singapore	Singapore	609933	X
Marmon Crane Services, Inc.	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Marmon Distribution Services, Inc.	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Electrical & Plumbing Distribution Products, Inc.	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Energy Services Company	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Engineered Components Company	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Engineered Industrial & Metal Components, Inc.	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Engineered Wire & Cable LLC	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Flow Products, Inc.		Marmon	P.O. Box 66800	St. Louis	MO	63166	X
Marmon Food & Beverage Technologies LLC	100%	Marmon		Chicago	IL		X
Marmon Foodservice Technologies LLC	100%	Marmon		Chicago	IL		X
Marmon Grand Cayman Incorporated		Marmon					X
Marmon Highway Technologies LLC	100%	Marmon	1400 Urban Center Dr # 460	Birmingham	AL	35242	X
Marmon Holdings Corporation	100%	Marmon	2001 Speers Road	Oakville	Ontario, Canada		X
Marmon Holdings, Inc.	99.75%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Hyflux Investments Pte Ltd.	51%	Marmon	202 Kallang Bahru, Hyflux Bldg.	Kallang, Singapore	Singapore	339339	X
Marmon Italia S.r.l.	100%	Marmon	Corso Giacomo Matteotti 42	Torino	Italy	10121	X
Marmon Leader (Thailand) Co., Ltd.	100%	Marmon		Bangkok	Thailand		X
Marmon Leader Japan L.L.C.	100%	Marmon			Japan		
Marmon Merchandising Holdings, Inc.	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Merchandising LLC	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Metals Companies LLC		Marmon	225 W Washington St, Suite 1	Chicago	IL	60606	X
Marmon Natural Resource & Transportation Services, Inc.	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Product Development Center Pte Ltd.	100%	Marmon		Singapore			X
Marmon Retail & End User Technologies, Inc.	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Retail Home Improvement Products, Inc.	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Marmon Retail Mobile Equipment LLC	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Retail Products, Inc.	100%	Marmon	1002 Industrial Way	Crothersville	IN	47229	X
Marmon Retail Science Ltd.	100%	Marmon	Bishop Meadow Road	Loughborough Leicestershire	UK	LE11 5TH	X
Marmon Retail Services Asia Corporation	100%	Marmon	Longshi District, Wuguishan	Zhongshan, Guangdong Province	China	528458	X
Marmon Retail Services, Inc.		Marmon	225 West Washington Street	Chicago	IL	60606-3418	X
Marmon Retail Store Equipment LLC	100%	Marmon					X
Marmon Retail Store Fixtures LLC	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Retail Technologies Company	100%	Marmon					X
Marmon Services Limited	100%	Marmon		Port Louis	Mauritius		X
Marmon Transportation Services LLC	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Utility LLC		Marmon	49 Day Street	Seymour	CT	06483	X
Marmon Water (Singapore) Pte Ltd.	100%	Marmon		Singapore			X
Marmon Water LLC		Marmon	1769 Jamestown Road	Williamsburg	VA	23185	X
Marmon Water, Inc.	100%	Marmon	1769-A Jamestown Road	Williamsburg	VA	23185	X
Marmon Wire & Cable (Europe) Limited		Marmon	PO Box 1918	Iron Acton, Bristol	UK	BS37 0AJ	X
Marmon Wire & Cable LLC		Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon Wire & Cable, Inc.	100%	Marmon	181 W Madison St., 26th Floor	Chicago	IL	60602	X
Marmon/Keystone Canada Inc.	100%	Marmon	1220 Heritage Road	Burlington	Ontario, Canada	L7L 4X9	X
Marmon/Keystone Corporation		Marmon	P.O. Box 992	Butler	PA	16003-0992	X
Marmon/Keystone de Mexico S.A. de C.V.	100%	Marmon	Av. Industrias Del Oriente 3147 Jardines De San Rafael	Guadalupe	Mexico	67110	X
Marmon/Keystone LLC	100%	Marmon	P.O. Box 992	Butler	PA	16003-0992	X
Marmon/Keystone Services de Mexico, S.A. de C.V.	100%	Marmon	Av. Industrias Del Oriente 3147 Jardines De San Rafael	Guadalupe	Mexico	67110	X
Marmon-Herrington Company, Inc.	100%	Marmon	13001 Magisterial Drive	Louisville	KY	40223	X
Marquis Jet Acquisition Corp.		NetJets	230 Park Ave., Ste. 840	New York	NY	10169	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Marquis Jet Holdings, Inc.	100%	NetJets	230 Park Ave., Ste. 840	New York	NY	10169	X
Marquis Jet Partners Holdings LLC		NetJets	230 Park Ave., Ste. 840	New York	NY	10169	X
Marquis Jet Partners Holdings, Inc.		NetJets	230 Park Ave., Ste. 840	New York	NY	10169	X
Marquis Jet Partners, Inc.	100%	NetJets	230 Park Ave., Ste. 840	New York	NY	10169	X
Martin Dialysis, LLC	17.95%	DaVita Healthcare	3250 Kidron Valley Way	Owensboro	KY	42303	X
Martin Mills, Inc.	100%	Fruit of the Loom	Hubertville Road	Jeanerette	LA	70544	X
Maryland Ventures, Inc.	100%	GEICO	One GEICO Plaza	Washington	DC	20076	X
Marysville Dialysis Center, LLC	17.95%	DaVita Healthcare	1015 8th Street	Marysville	CA	95901	X
Mason-Dixon Dialysis Facilities, Inc.	17.95%	DaVita Healthcare	9635-A Liberty Road	Randallstown	MD	21133	X
Master Chef Limited	26.86%	Kraft Heinz	513 King Street North	Hastings	New Zealand		X
Masterfan Ventilatie B.V.	100%	CTB International	Nijverheidsstraat 14 P.O. Box 195	7640 AD Wierden	Netherlands		
Masteround Turkey		TaeguTec			Turkey		X
Mateleco Composants SAS	100%	TTI, Inc.	3 Ave le Verrier Zac des Bruyeres	Trappes	France	78190	X
Mateleco Finance SAS		TTI, Inc.	3 Ave le Verrier Zac des Bruyeres	Trappes	France	78190	X
Mateleco Support	100%	TTI, Inc.	3 Ave le Verrier Zac des Bruyeres	Trappes	France	78190	X
Matemexico, S.A. de C.V.		Fruit of the Loom	Chiapas No. 501 La Republica	Matehuala	Mexico		X
Maya Apparel, Limitada, de C.V.	100%	Fruit of the Loom		Santa Ana	El Salvadore		X
Mayfield Dialysis, LLC	17.95%	DaVita Healthcare		Mayfield	KY		X
MBM Corporation (<i>d/b/a for Meadowbrook Meat Company, Inc.</i>)	100%	McLane	2641 Meadowbrook Road	Rocky Mount	NC	27802	X
MBM Trade Receivable II, LLC		McLane	2641 Meadowbrook Road	Rocky Mount	NC	27801	X
MCC Holdings Corporation		BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
McCarty-Hull Cigar Company, Inc.	100%	McLane	P.O. Box 30127	Amarillo	TX	79120	X
McCarty-Hull, Inc.		McLane	4714 N. E. 24th	Amarillo	TX	79120	X
McKenzie Valve & Machining LLC	100%	Marmon	145 Airport Road	McKenzie	TN	38201	X

BERKSHIRE HATHAWAY INC. (10% and greater)

McKinney Buick GMC (d/b/a for Lone Star Buick-GMC II, LLC)	86%	BH Auto	3950 S. Central Expressway	McKinney	TX	75069	X
McLane Beverage Distribution, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	X
McLane Beverage Holding, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	X
McLane Carolina Company		McLane	7253 Highway NC 48	Battleboro	NC	27809	X
McLane Company, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	X
McLane Eastern, Inc.	100%	McLane	2828 McLane Drive	Baldwinsville	NY	13027	X
McLane Express, Inc.	100%	McLane	302 North Main Street	Weatherford	TX	76086	X
McLane Foods, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	
McLane Foodservice, Inc.	100%	McLane	2085 Midway	Carrollton	TX	75006	X
McLane Mid-Atlantic, Inc.	100%	McLane	56 McLane Drive	Fredericksburg	VA	22406	X
McLane Midwest, Inc.	100%	McLane	3400 E. Main St.	Danville	IL	61832	X
McLane Minnesota, Inc.	100%	McLane	111 West 5th Street	Northfield	MN	55057	X
McLane Network Solutions, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	
McLane New Jersey, Inc.	100%	McLane	742 Courses Landing Road	Carneys Point	NJ	08069	X
McLane Southern California Company		McLane	4472 Georgia Blvd.	San Bernardino	CA	92407	X
McLane Southern, Inc.	100%	McLane	2104 Manufacturers Blvd., NE	Brookhaven	MS	39602	X
McLane Suneast, Inc.	100%	McLane	1818 Poinciana Blvd.	Kissimmee	FL	34758	X
McLane Sunwest, Inc.		McLane	14149 W. McDowell Rd.	Goodyear	AZ	85338	X
McLane Tri-States, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	
McLane Western, Inc.	100%	McLane	1200 East Highway 119	Longmont	CO	80504	X
McLeansboro Properties, LP.	99.99%	National Indemnity	710 S Hancock St	McLeansboro	IL	62859	X
MCVT Motors, LLC	93%	BH Auto	1550 E Missouri Ave # 300	Phoenix	AZ	85014	X
MD Spring Valley LLC	100%	Marmon	225 E Cunningham Street	Butler	PA	16001	X
Meadowbrook Meat Company, Inc.	100%	McLane	2641 Meadowbrook Road	Rocky Mount	NC	27802	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Meadows/Collins, L.P.	99.99%	National Indemnity	7538 Old Canton Road	Madison	MS	39110	X
Medical Group Holding Company, LLC	17.95%	DaVita Healthcare	5400 Gibson Blvd SE	Albuquerque	NM	87108	X
Medical Protective Corporation	100%	Medical Protective	5814 Reed Road	Fort Wayne	IN	46835	X
Medical Protective Finance Corporation	100%	Medical Protective	5814 Reed Road	Fort Wayne	IN	46835	X
Medical Protective Insurance Services, Inc.	100%	Medical Protective	5814 Reed Road	Fort Wayne	IN	46835	X
MedPro Risk Retention Services, Inc.	100%	Medical Protective	5814 Reed Road	Fort Wayne	IN	46835	X
MedPro RRG Risk Retention Group		Medical Protective	5814 Reed Road	Fort Wayne	IN	46835	X
Megawood Larson-Juhl Pty. Ltd.	100%	Larson-Juhl	Central 2B/605 Zillmere Rd	Zillmere	Queensland Australia	4034	X
Megawood Mouldings Pty. Ltd.	100%	Larson Juhl	931 Nudgee Road	Banyo Qld	Australia	4014	
Memorial Dialysis Center, L.P.	17.95%	DaVita Healthcare	11621 Katy Freeway	Houston	TX	77079	X
Mena Dialysis Center, LLC	17.95%	DaVita Healthcare	1200 Crestwood Circle	Mena	AR	71953	X
Mendocino Dialysis, LLC	17.95%	DaVita Healthcare	3211 Interstate 45 N, Ste 500	Conroe	TX	77304	X
Merchant Services Poland, S.A.	14.65%	American Express	CHŁODNA 51	Warsaw	Poland	00-867	X
Merendon Power Plant S.A.	100%	Fruit of the Loom			Honduras		X
Company d/b/a Meriam Process Technologies)	100%	Scott Fetzer	10920 Madison Avenue	Cleveland	OH	44102	X
Meridian Dialysis, LLC	17.95%	DaVita Healthcare	601 Hawaii Street	El Segundo	CA	90245	X
Merit Distribution Services, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	X
Merquinsa Asia-Pacific Ltd.		Lubrizol	Level 28, Three Pacific Place 1 Queen's Road East		Hong Kong		X
Merquinsa Mercados Quimicos S.L.		Lubrizol	Gran Vial, 17 Montmelo	Barcelona	Spain		X
Mesa Insulation, Inc.			1110 16 Road	Fruita	CO	81521	X
Mesilla Dialysis, LLC	17.95%	DaVita Healthcare	1430 East US Highway 36	Urbana	OH	43078	X
Metal-Tech Cz, a.s.	100%	Iscar	Revolucni 1930/86	Usti Nad Labem	Czech Republic	40001	X
Metal-Tech Ltd.	100%	Iscar	Ramat Hovav Emek Sara P.O. Box 2412	Be'er Sheva	Israel	84874	X
MetaMarkets OK, LLC	99.99%	FlightSafety	2225 N May Avenue	Oklahoma City	OK	73107	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Metaor - Metal Injection Industries Ltd.	100%	Iscar	19312 Mizra	Kibbutz Mizra	Israel		X
Meteor Communications Corporation		BNSF Railway	22614 66th Avenue South	Kent	WA	98032	X
Meteorcomm, LLC	25%	BNSF Railway	1201 SW 7th St.	Renton	WA	98057	X
Metro Auto Auction Dallas, LLC	100%	BH Auto	1999 Bryan Street Suite 900	Dallas	TX	75201	X
Metro Auto Auction, LLC	90%	BH Auto	1550 E. Missouri Ste 300	Phoenix	AZ	75014	X
Metroptic Technologies Ltd.	100%	Iscar	No.2-1 Hengshan Road, Economic and Technology Development Zone	Qinhuangdao, Hebei	Israel	066004	X
Meyn America, LLC	100%	CTB International	563 Airport Industrial Drive	Ball Ground	GA	30107	X
Meyn Asia Co. Ltd.	49%	CTB International	1/747 Pholyothin Road, km. 26 Kukot	Lamlukha Patkumthani	Thailand	12130	X
Meyn Beheer B.V.	100%	CTB International	Noordeinde 68	Oostzaan	The Netherlands	1511 AE	X
Meyn Beijing Trading Company, Ltd.	100%	CTB International	Futong East Ave, Wangjing, Chaoyang District	Beijing	China	100102	X
Meyn Business Support de Mexico, S. de R.L. de C.V.	100%	CTB International	Carretera Mexico-Toluca Km 53 9	Lerma	Mexico	52004	X
Meyn Canada Inc.	100%	CTB International	7105A Edwards Boulevard	Mississauga	Ontario, Canada	ON L5S 1Z2	X
Meyn do Brasil Ltda.	100%	CTB International	Avenue Selma Parada, 201 Galleria Office Park, Edifício 3, Conj. 333	Campinas SP	Brazil	13091-901	X
Meyn Food Equipment Iberica S.A.	100%	CTB International	C/Prol. Jacinto Verdaguer No 4 Bajos, Sant Fruitós de Bages	Barcelona	Spain	08272	X
Meyn Food Processing Technology B.V.	100%	CTB International	Westeinde 6, 1511 MA Oostzaan	Amsterdam	The Netherlands		X
Meyn Food Processing Technology de Mexico S. de R.L. de C.V.	100%	CTB International	Carretera Mexico-Toluca Km 53 9	Lerma	Mexico	52004	X
Meyn France S.a.r.l.	100%	CTB International	Z.A. de Kervault Ouest, BP 54	Questembert	France	56230	X
Meyn Holding B.V.	100%	CTB International	Noordeinde 68 1511 AE Oostzaan	Amsterdam	The Netherlands		X
Meyn Polska Sp.Zoo	100%	CTB International	ul. Sportowa 24	Łębork, Pomorskie	Poland	84-300	X
Meyn, LLC	100%	CTB International	1000 Evenflo Drive	Ball Ground	GA	30107	X
Miami Artistic Group, Inc.		Larson Juhl	2981 W McNab Rd	Pompano Beach	FL	33069	X
Miami Tower, LLC	50%	National Indemnity	3401 West Hallandale Beach Blvd	Pembroke Park	FL	33023	X
Michael Anthony Jewelers Manufacturing, LLC		Richline Group	115 South MacQuesten Parkway	Mount Vernon	NY	10550	X
Middlesex Dialysis Center, LLC	17.95%	DaVita Healthcare	100 Main Street, Suite A	Middletown	CT	06457	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Midland States Life Insurance Co.	78%	Clayton Homes	P.O. Box 4098	Maryville	TN	37802	X
Midlothian Exchange		BH Media	PO Box 420	Midlothian	VA	23113	X
Midroog Ltd.	12.07%	Moody's	17 Ha'arbaa Street	Tel Aviv	Israel	64739	X
Midway Chevrolet Company I, LLC <i>d/b/a Midway Chevrolet</i>	93%	BH Auto	2323 W. Bell Road	Phoenix	AZ	85023	X
Midway Holdings I, LLC	93%	BH Auto	1550 E Missouri #300	Phoenix	AZ	85014	X
Midway Nissan (<i>d/b/a for Midway Holdings I, LLC</i>)	93%	BH Auto	2209 W. Bell Road	Phoenix	AZ	85023	X
Midwest Bearing & Supply, L.L.C.		CTB International	1732 Guthrie Ave.	Des Moines	IA	50316	X
Midwest Gear (<i>d/b/a for Penn Machine Company</i>)	100%	Marmon	2182 E. Aurora Road	Twinsburg	OH	44087	X
Midwest/Northwest Properties Inc.	100%	BNSF Railway	3800 Continental Plaza, 777 Main Street	Fort Worth	TX	76102	X
Miles Chevrolet, LLC <i>d/b/a Miles Chevrolet</i>	96%	BH Auto	150 W. Pershing Road	Decaturq	IL	62526	X
Miller Sage Holdings, Inc.		MiTek	200 Quality Way	Holly	MI	48442	X
Miller Sage, Inc.	100%	MiTek	300 Quality Way	Holly	MI	48442	X
Milo Dialysis, LLC	17.95%	DaVita Healthcare	7611 Auburn Road	Painesville	OH	44077	X
Minam Dialysis, LLC	17.95%	DaVita Healthcare	8604 S Coulter Street	Amarillo	TX	79119	X
Mindware Corporation	100%	Oriental Trading	2100 County Road C W	Roseville	MN	55113	X
MindWare Holdings, Inc.		Oriental Trading	2100 County Road C W	Roseville	MN	55113	X
Minneapolis Leased Housing Associates IV, Limited Partnership	99.99%	National Indemnity		Plymouth	MN	55441	X
Miraflores Apartments LLC	99.99%	Affordable Housing	4011 North 1st Avenue	Tucson	AZ	85719	X
Miramar Dialysis Center, LLC	17.95%	DaVita Healthcare	2501 Dykes Road	Miramar	FL	33027	X
MIS Asset Holdings, Inc.	12.07%	Moody's					X
MIS Cyprus Limited Luxembourg Branch	12.07%	Moody's					X
MIS Funds Pty. Ltd.	12.07%	Moody's					X
MIS Limited Czech Branch	12.07%	Moody's			Czech Republic		X
MIS Limited DIFC Branch	12.07%	Moody's		Dubai	United Arab Emirates		X

BERKSHIRE HATHAWAY INC. (10% and greater)

MIS Limited Russian Branch	12.07%	Moody's	7th floor, Four Winds Plaza 21 1st Tverskaya-Yamskaya St.	Moscow	Russia	125047	X
MIS Quality Management Corp.	12.07%	Moody's	501 Silverside Road, Suite 20	Wilmington	DE	19809-1375	X
Mission Dialysis Services, LLC	17.95%	DaVita Healthcare	1506 S Bryan Road	Mission	TX	78572	X
MiTek Asia Snd Bhd	98%	MiTek	Lot 15, Jalan Sultan Mohamad 5 Kawasan Perusahaan Bandar	Sultan Sulaiman	Selangor Darul Ehsan	42000	X
MiTek Australia Ltd.	98%	MiTek	46 Monash Drive	Lyndhurst	Victoria Australia	3975	X
MiTek CAD Engine S.A.S.		MiTek	Grazebrook Industrial Park, Peartree Lane	Dudley	West Midlands UK	DY2 0XW	X
MiTek Canada, Inc.	98%	MiTek	100 Industrial Road	Bradford	Ontario, Canada	L3Z 2B7	X
MiTek Finland OY	98%	MiTek	Sepänkatu 7-9	Riihimäki	Finland	11710	X
MiTek Holdings, Inc.	98%	MiTek	300 Delaware Ave	Wilmington	DE	19801	X
MiTek Industries A.B.	98%	MiTek	Stoerydsvägen 7, Box 210	Tranas	Sweden	S-573 23	X
MiTek Industries GmbH	98%	MiTek	Deutz-Kalker Str. 1	Cologne	Germany	DE-50679	X
MiTek Industries Group S.R.L.	49.9%	MiTek	Str. Emil Garleanu	Bucharest	Romania		X
MiTek Industries Ltd.	98%	MiTek	Grazebrook Industrial Park, Peartree Lane	Dudley	West Midlands UK	DY2 0XW	X
MiTek Industries o.o.o.	98%	MiTek					X
MiTek Industries Polska Sp. z o.o.	98%	MiTek	ul. Poznańska 29K	Legnica	Poland	59-220	X
MiTek Industries Trustee Ltd.	98%	MiTek		Dudley	England		X
MiTek Industries, Inc.	98%	MiTek	14515 N Outer Forty Drive, Suite 300	Chesterfield	MO	63017	X
MiTek Industries, Polska	98%	MiTek	Ul. Poznanska 29K	Legnica	Poland	59-220	X
MiTek Industries, S.A.S.	98%	MiTek	3 BIS, r des Archives	Creteil	France	94006	X
MiTek Industries, SRO	98%	MiTek	Drážní 7	Brno	Czech Republic	627 00	X
MiTek New Zealand Ltd.	98%	MiTek	5 Zelanian Drive	East Tamaki	Auckland New Zealand		X
MiTek R-1 Holding Company		MiTek					X
MiTek South Africa Pty Ltd.	98%	MiTek	754 Sixteenth Street, Randjespark Ext34	Johanesburg	South Africa	1685	X
MiTek USA, Inc.	98%	MiTek	14515 N Outer Forty Drive, Suite 300	Chesterfield	MO	63017	X

BERKSHIRE HATHAWAY INC. (10% and greater)

MiTek Zimbabwe		MiTek	155 Williams Way	Masasa	Zimbabwe		X
Mitex AB		MiTek	Box 7013	Helsingborg Skane Laen	Sweden		X
Mixed Income 2, LLC	99.99%	National Indemnity	2009 Alta Drive	Las Vegas	NV	89106	X
Mixed Income, LLC	99.99%	National Indemnity	2009 Alta Drive	Las Vegas	NV	89106	X
MLB Industrial Service Company Bobingen	100%	Johns Manville	Max-Fischer-Str. 11	Bobingen, Bavaria	Germany	86399	X
MMX Corporation		XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	X
MNI Real Estate, LLC	100%	BH Media	1314 Douglas St., Suite 1500	Omaha	NE	68102	X
Monahans Dialysis, LLC	17.95%	DaVita Healthcare	1587 N Main Street	Marion	VA	24354	X
Moncrief Dialysis Center/Total Renal Care Limited Partnership	17.95%	DaVita Healthcare	800 West 34th Street	Austin	TX	78705	X
Montana Retail Properties, Inc.	100%	Blue Chip Stamps		Pasadena	CA		X
Montauk Synfuels, LLC	50%	BNSF Railway					X
Monte Cristo Apparel, Ltda.	100%	Fruit of the Loom			El Salvadore		X
Moody's Analytics (DIFC) Limited	12.07%	Moody's		Dubai	United Arab Emirates		X
Moody's Analytics SAS	12.07%	Moody's	20 Rue L Avoi Sier	Montbonnot-Saint-Martin	France	38330	X
Moody's Analytics Technical Services (Hong Kong) Ltd.	12.07%	Moody's					X
Moody's Analytics Technical Services (UK) Ltd.	12.07%	Moody's	One Canada Square, Canary Wharf	London	UK	E14 5FA	X
Moody's Analytics Technical Services Limited	12.07%	Moody's					X
Moody's Group Luxembourg Sarl	12.07%	Moody's			Luxembourg		X
Moody's Information Consulting (Shenzhen) Co. Ltd.	12.07%	Moody's	Level 13, Kerry Plaza Tower 2 No. 1 Zhong Xin Si Road	Futian, Shenzhen	China	518048	X
Moody's Servicios Latino-America SA de CV	12.07%	Moody's	Av. Nações Unidas, 12.551, 16º andar - cj 1.601,CEP04578-903	São Paulo, SP	Brasil		X
Moody's (Japan) K.K.	12.07%	Moody's	Atago Green Hills Mori Tower 20th Fl., 2-5- 1 Atago, Minato-ku	Tokyo	Japan	105-6220	X
Moody's (UK) Limited	12.07%	Moody's	One Canada Square, Canary Wharf	London	UK	E14 5FA	X
Moody's Advisors Inc.	12.07%	Moody's	440 North Wells, Suite 530	Chicago	IL	60610	X
Moody's America Latina Ltda.	12.07%	Moody's	Avenue Das Nacoes Unidas 12551, 17th Floor	Sao Paulo	Brazil		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Moody's Analytics (Thailand) Co. Ltd.	12.07%	Moody's			Thailand		X
Moody's Analytics Australia Pty. Ltd.	12.07%	Moody's	Level 10, 1 O'Connell Street	Sydney	Australia	NSW 2000	X
Moody's Analytics Canada Inc.	12.07%	Moody's	70 York Street, Suite 1400	Toronto	Canada	M5J 1S9	X
Moody's Analytics Czech Republic s.r.o.	12.07%	Moody's	Washingtonova 1599/17 Praha 1 - Nové Město	Praha 1	Czech Republic	110 00	X
Moody's Analytics Deutschland GmbH	12.07%	Moody's	An der Welle 5	Frankfurt	Germany	60322	X
Moody's Analytics do Brasil Ltda.	12.07%	Moody's			Brazil		X
Moody's Analytics do Brasil Solucoes para Gerenciamento de Risco de Credito Ltda.	12.07%	Moody's			Brazil		X
Moody's Analytics France SAS	12.07%	Moody's	96 Boulevard Haussmann	Paris	France	75008	X
Moody's Analytics Global Education (Canada) Inc.	12.07%	Moody's	200 Wellington St W	Toronto	Ontario, Canada	M5V 3C7	X
Moody's Analytics Holdings (UK) Ltd.	12.07%	Moody's	One Canada Square, Canary Wharf	London	UK	E14 5FA	X
Moody's Analytics Hong Kong Ltd.	12.07%	Moody's	99 Queen's Road, Room 5608	Central	Hong Kong		X
Moody's Analytics International Licensing GmbH	12.07%	Moody's	Schützengraben 20	Schaffhausen	Switzerland	8200	X
Moody's Analytics Ireland Ltd.	12.07%	Moody's		Dublin	Ireland		X
Moody's Analytics Israel Limited	12.07%	Moody's					X
Moody's Analytics Japan KK	12.07%	Moody's	Atago Green Hills Mori Tower 20th Floor, 2-5-1 Atago, Minato-ku	Tokyo	Japan		X
Moody's Analytics Korea Co. Ltd.	12.07%	Moody's		Seoul	Korea		X
Moody's Analytics Singapore Pte. Ltd.	12.07%	Moody's					X
Moody's Analytics Solutions, LLC	12.07%	Moody's	1314 Douglas Street	Omaha	NE	68102	X
Moody's Analytics U.K. Limited	12.07%	Moody's	One Canada Square, Canary Wharf	London	UK	E14 5FA	X
Moody's Analytics, Inc.	12.07%	Moody's	405 Howard St Ste 300	San Francisco	CA	94105-2671	X
Moody's Asia Pacific Ltd.	12.07%	Moody's	One Harbour View Street, Room 2510	Central	Hong Kong		X
Moody's Asia-Pacific Group (Singapore) Pte. Ltd.	12.07%	Moody's	50 Raffles Place	Singapore	Singapore	048623	X
Moody's Assurance Company, Inc.	12.07%	Moody's	300 Broadhollow Road, Suite 201	Melville	NY	11747-4800	X
Moody's Assureco, Inc.	12.07%	Moody's					X

BERKSHIRE HATHAWAY INC. (10% and greater)

Moody's Canada LP	12.07%	Moody's					X
Moody's Canada, Inc.	12.07%	Moody's	70 York Street, Suite 1400	Toronto	Canada	M5J 1S9	X
Moody's Capital Markets Research, Inc.	12.07%	Moody's					X
Moody's Central Europe (BVI) Ltd.	12.07%	Moody's			British Virgin Islands		X
Moody's Central Europe A.S.	12.07%	Moody's	Washingtonova 17	Prague	Czech Republic	110 001	X
Moody's China (BVI) Ltd.	12.07%	Moody's					X
Moody's Company Hong Kong, Ltd.	12.07%	Moody's					X
Moody's Corporation	12.07%	Moody's	99 Church Street	New York	NY	10007	X
Moody's Credit Assessment Holdings, LLC	12.07%	Moody's					X
Moody's Credit Assessment Inc.	12.07%	Moody's					X
Moody's Credit Assessment India Private Limited	12.07%	Moody's			India		X
Moody's Credit Quotes Australia Pty. Ltd.	12.07%	Moody's		Brisbane	Australia		X
Moody's Credit Quotes Inc.	12.07%	Moody's		New York	NY		X
Moody's de Mexico S.A. de C.V.	12.07%	Moody's	Ave. Paseo de las Palmas No. 405 - 502	Col. Lomas de Chapultepec	Mexico	DF 11000	X
Moody's Deutschland GmbH	12.07%	Moody's	At the wave 5	Frankfurt	Germany	D-60322	X
Moody's Dubai (BVI) Ltd.	12.07%	Moody's					X
Moody's Eastern Europe LLC	12.07%	Moody's	Sadovnicheskaya St 82 / 2	Moscow	Russia	115035	X
Moody's EMEA Holdings Limited	12.07%	Moody's	One Canada Square, Canary Wharf	London	UK	E14 5FA	X
Moody's EMEA Ltd.	12.07%	Moody's	One Canada Square, Canary Wharf	London	UK	E14 5FA	X
Moody's Evaluations Inc.	12.07%	Moody's	7 World Trade Ctr	New York	NY	10007	X
Moody's Finance Company Limited	12.07%	Moody's	One Canada Square, Canary Wharf	London	UK	E14 5FA	X
Moody's Finance Company UK Ltd.	12.07%	Moody's			UK		X
Moody's France SAS	12.07%	Moody's	118-120 Avenue de France, 3rd Floor	Paris	France	75013	X
Moody's Group (Holdings) Ltd.	12.07%	Moody's	One Canada Square, Canary Wharf	London	UK	E14 5FA	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Moody's Group Australia Pty. Ltd.	12.07%	Moody's			Australia		X
Moody's Group Cyprus Ltd.	12.07%	Moody's	Eagle House, 16 Kyriakos, Matsis Avenue 10th Floor, 1082 Ayioi Omoloyites	Nicosia	Cyprus		X
Moody's Group Deutschland GmbH	12.07%	Moody's	An der Welle 5	Frankfurt	Germany	60322	X
Moody's Group Finance Ltd.	12.07%	Moody's	One Canada Square, Canary Wharf Poplar	London	UK	E14 5F	X
Moody's Group France SAS	12.07%	Moody's	96, boulevard Haussmann	Paris	France	75008	X
Moody's Group Germany GmbH	12.07%	Moody's			Germany		X
Moody's Group Japan GK	12.07%	Moody's			Japan		X
Moody's Group UK Ltd.	12.07%	Moody's	One Canada Square, Canary Wharf Poplar	London	UK	E14 5F	X
Moody's Holdings (BVI) Limited	12.07%	Moody's			British Virgin Islands		X
Moody's Holdings LLC	12.07%	Moody's	6899 S Highway 16	San Saba	TX	76877	X
Moody's Holdings Ltd.	12.07%	Moody's	2 Minster Court Mincing Lane	London	UK	EC3R 7BB	X
Moody's Holdings U.K. Limited	12.07%	Moody's			UK		X
Moody's Holdings, Inc.	12.07%	Moody's			UK		X
Moody's Indonesia (BVI) Ltd.	12.07%	Moody's	Menara Rajawali 22nd floor, Jalan Mega Kuningan Lot # 5.1	Jakarta	Indonesia	12950	X
Moody's Interfax Rating Agency Kazakhstan Ltd.	12.07%	Moody's	85a Prospekt Dostyk	Almaty	Kazakhstan	480100	X
Moody's Interfax Rating Agency Ltd.	12.07%	Moody's	2, Pervaya Tverskaya- Yamskaya	Moscow	Russia	103006	X
Moody's Interfax Rating Agency Ukraine LLC	12.07%	Moody's	8/5a Ul. Reitarska	Kyiv	Ukraine	01034	X
Moody's International (UK) Limited	12.07%	Moody's	One Canada Square Canary Wharf	London	UK	E14 5FA	X
Moody's International LLC	12.07%	Moody's	Micro district 2, 47 B	Aktau	Republic of Kazakhstan	130000	X
Moody's Investment Company India Pvt. Ltd.	12.07%	Moody's	Electric Mansion, 3rd Floor, Appasaheb Marathe Marg	Mumbai	India	400 025	X
Moody's Investors Service (d/b/a for Moody's Corporation)	12.07%	Moody's	P.O. Box 102597	Atlanta	GA	30368	X
Moody's Investors Service (BVI) Ltd.	12.07%	Moody's			British Virgin Islands		X
Moody's Investors Service (Korea) Inc.	12.07%	Moody's	55FL., 63BD, Youido-dong, Youngdeungpo-gu	Seoul	Korea		X
Moody's Investors Service (South Africa) Pty. Ltd.	12.07%	Moody's	2 Maude Street	Johannesburg	South Africa		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Moody's Investors Service Asia Pacific Pty. Ltd.	12.07%	Moody's			Australia		X
Moody's Investors Service Beijing Ltd.	12.07%	Moody's	10/F, International Financial Centre C, No. 156, Fuxingmen Nei Street	Beijing	China	100031	X
Moody's Investors Service Cyprus Ltd.	12.07%	Moody's	Kanika Business Centre 319, 28th October Avenue	Limassol	Cyprus	3301	X
Moody's Investors Service EMEA Limited	12.07%	Moody's	One Canada Square, Canary Wharf	London	UK	E14 5FA	X
Moody's Investors Service Espana, S.A.	12.07%	Moody's	Calle Principe de Vergara, 131, 6 Planta	Madrid	Spain	28002	X
Moody's Investors Service Hong Kong Ltd.	12.07%	Moody's	24/F One Pacific Place 88 Queensway Central		Hong Kong		X
Moody's Investors Service India Private Limited	12.07%	Moody's	Indiabulls Finance Centre, Senapati Bapat Marg,	Mumbai	Maharashtra India	400013	X
Moody's Investors Service Japan KK	12.07%	Moody's	Atago Green Hills Mori Tower 20th Fl., 2-5-1 Atago, Minato-ku	Tokyo	Japan	105-6220	X
Moody's Investors Service Ltd.	12.07%	Moody's	2 Minster Court	London	England	EC3R 7XB	X
Moody's Investors Service Middle East Limited	12.07%	Moody's	3, Dubai International Financial Centre Street	Dubai	United Arab Emirates		X
Moody's Investors Service Pty. Ltd.	12.07%	Moody's	Level 10, 1 O'Connell Street	Sydney	Australia	NSW 2000	X
Moody's Investors Service Singapore Pte. Ltd.	12.07%	Moody's	50 Raffles Place #23-06, Singapore Land Tower	Singapore	Singapore	48623	X
Moody's Investors Service South Africa (Pty.) Ltd.	12.07%	Moody's	The Forum, 2 Maude Street	Sandton	Johannesburg South Africa		X
Moody's Investors Service, Inc.	12.07%	Moody's	250 Greenwich Street, 7 World Trade Center	New York	NY	10007	X
Moody's Israel Holdings, Inc.	12.07%	Moody's			British Virgin Islands		X
Moody's Italia S.r.l.	12.07%	Moody's	Corso di Porta Romana, 68	Milan	Italy	20122	X
Moody's Japan Kabushiki Kaisha	12.07%	Moody's	Atago Green Hills Mori Tower 20th Fl., 2-5-1 Atago, Minato-ku	Tokyo	Japan	105-6220	X
Moody's Latin America Calificadora de Riesgo S.A.	12.07%	Moody's	Cerrito 1186, 11th Floor	Buenos Aires	Argentina	C1010AAX	X
Moody's Latin America Holding Corp.	12.07%	Moody's	Laminar Plaza Bldg., 16th floor 240 Ing. Butty Street	Buenos Aires	Argentina	C1001AFB	X
Moody's Mauritius Holdings Ltd.	12.07%	Moody's			Mauritius		X
Moody's Middle East Ltd.	12.07%	Moody's	Dubai International Financial Centre, PO Box 113355	Dubai	United Arab Emirates		X
Moody's Overseas Holdings, Inc.	12.07%	Moody's	99 Church Street	New York	NY	10007-2703	X
Moody's Research Labs, Inc.	12.07%	Moody's	250 Greenwich Street	New York	NY	10007	X
Moody's Risk Services Corp.	12.07%	Moody's	7 World Trade Center	New York	NY	10007	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Moody's SF Japan KK	12.07%	Moody's	Atago Green Hills Mori Tower 20th Fl., 2-5-1 Atago, Minato-ku	Tokyo	Japan	105-6220	X
Moody's Shared Services India Private Limited	12.07%	Moody's	Electric Mansion, 3rd Floor, Appasaheb Marathe Marg	Prabhadevi, Mumbai	India	400 025	X
Moody's Shared Services UK Limited	12.07%	Moody's	One Canada Square, Canary Wharf	London	UK	E14 5FA	X
Moody's Shared Services, Inc.	12.07%	Moody's	250 Greenwich Street	New York	NY	10007	X
Moody's Singapore Pte. Ltd.	12.07%	Moody's	50 Raffles Place #23-06	Singapore	Singapore	48623	X
Moody's Software Development (Shenzhen) Ltd.	12.07%	Moody's	Level 18, A12, NCI Building, Jianguomenwai Avenue	Chaoyang District, Beijing	China	100031	X
Moody's South Africa (BVI) Ltd.	12.07%	Moody's	The Forum, 2 Maude Street	Johannesburg	South Africa		X
Moody's Taiwan Corp.	12.07%	Moody's	No. 333, Keelung Road, Sec. 1, Room 1813, 18/F	Taipei	Taiwan	110	X
Moody's Wall Street Analytics International LLC	12.07%	Moody's	1251 Ave of The Americas	New York	NY	10020	X
Moody's Wall Street Analytics International, Inc.	12.07%	Moody's	12 Arthur Street	London	England	EC4R 9AB	X
Moody's Wall Street Analytics LLC	12.07%	Moody's	140 East 45th Street, 9th Fl.	New York	NY	10017	X
Moody's Wall Street Analytics UK Ltd.	12.07%	Moody's	12 Arthur Street	London	England	EC4R 9AB	X
Moody's Wall Street Analytics, Inc.	12.07%	Moody's	395 Oyster Point Blvd # 215	South San Francisco	CA	94080-1928	X
Mooresville Tribune	100%	BH Media	147 East Center Avenue	Mooresville	NC	28115	X
Morgan Sheet Metal, Inc.		MiTek	12100 Knott Street	Garden Grove	CA	92841	X
Morgantown-National Supply, Inc.	100%	Marmon	17266 N. Illinois Highway 37	Mt. Vernon	IL	62864	X
Morning News	100%	BH Media	310 S. Dargan Street	Florence	SC	29501	X
Morro Dialysis, LLC	17.95%	DaVita Healthcare	120 Roberts Lane, Suite 4	Hillsboro	OH	45133	X
Morse - UOP B.V.	75%	Iscar	Gasthuisstraat 75	Helmond, Noord-Brabant	The Netherlands	5708 HJ	X
Morse LLC	100%	Iscar		Moscow	Russia		X
Morton Senior Residence, LLC	99.99%	Affordable Housing		Morton	IL		X
Mount Vernon Fire Insurance Company	100%	United States Liability Insurance Company	190 S. Warner Rd., P.O. Box 6700	Wayne	PA	19087-2191	X
Mount Vernon Specialty Insurance Company	100%	United States Liability Insurance Company	1190 Devon Park Dr	Wayne	PA	19087	X
Mountain Adviser	100%	BH Media		Richlands	VA		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Mountain Empire News	100%	BH Media	P.O. Box 888	Big Stone Gap	VA	24219	X
Mountain West Dialysis Services, LLC	17.95%	DaVita Healthcare	8800 Fox Drive	Thornton	CO	80260	X
Mouser (Shanghai) Electronics Trading Co. Ltd.	100%	TTI, Inc.	1258 Yuyuan Road, Greenland Commercial Bldg, Ste 15A07	Shanghai	China	200050	X
Mouser Electronics (France) SARL	100%	TTI, Inc.	Le Voltaire, 1, Avenue Léo Lagrange	Brive-La-Gaillarde	France	19100	X
Mouser Electronics (Hong Kong) Limited	100%	TTI, Inc.	Unit 607, 6/F LU Plaza, 2 Wing Yip Street	Kwun Tong, Kowloon	Hong Kong		X
Mouser Electronics (India) Private Ltd.	100%	TTI, Inc.	10, Ground Floor, Raheja Chambers, Museum Road	Bangalore	India	560001	X
Mouser Electronics Italy SRL	100%	TTI, Inc.	Centro Direzionale Milanofiori	Assago-MI	Italy	20090	X
Mouser Electronics Netherlands B.V.	100%	TTI, Inc.	222 Aspen	Eindhoven	Netherlands	5633	X
Mouser Electronics PTE Ltd.	100%	TTI, Inc.	3 Changi North Street 2	Singapore	Singapore	498827	X
Mouser Electronics S DE RL DE CV	100%	TTI, Inc.	Circ. Agustin Yanez No. 2613 Guadalajara Center	Guadalajara, Jalisco	Mexico	44100	X
Mouser Electronics, Inc.	100%	TTI, Inc.	1000 North Main Street	Mansfield	TX	76063-1514	X
Mouser Japan Godo Kaisha	100%	Mouser	Chuo-ku	Tokyo	Japan		X
Moving Comfort (a division of Russell Corporation)	100%	Russell Corporation	4500 Southgate Place, Suite 800	Chantilly	VA	20151-1729	X
MPP Administrators, Inc.	100%	BH Auto	112 SW 7th Street Ste 3C	Topeka	KS	66603	X
MPP Co., Inc.	100%	BH Auto	8500 Shawnee Mission Pkwy #210	Merriam	KS	66202	X
MPP Pipeline Corporation	100%	Lubrizol	29400 Lakeland Boulevard	Wickliffe	OH	44092	X
MS Property Company	100%	Berkshire Hathaway	301 E. Colorado Blvd., Suite 300	Pasadena	CA	91101	X
MT Holdings, Inc.			173 Queen Ave SE	Albany	OR	97322	X
MT Sub, Inc.		MiTek	2711 Centerville Road, Suite 400	Wilmington	DE	19808	X
MTC Tooling Systems Ltd.		Iscar	Fook Hong Industrial Bldg, 19M Sheung Yuet Road	Kowloon Bay	Kowloon Hong Kong		X
Mulgee Dialysis, LLC	17.95%	DaVita Healthcare	14204 Prairie Avenue	Hawthorne	CA	90250	X
Munera Sp. z.o.o.	17.95%	DaVita Healthcare	Kazimierza Wielkiego 1	Wroclaw	Poland	50-077	X
Museo Direct SAS	100%	Larson Juhl	73 bd Courcerin	Lognes	France	77185	X
Muskogee Dialysis, LLC	17.95%	DaVita Healthcare	2316 West Shawnee Street	Muskogee	OK	74401	X

BERKSHIRE HATHAWAY INC. (10% and greater)

MVVT Development, Inc.	100%	BH Auto	1550 E. Missouri Ave	Phoenix	AZ	85014	X
MVVT Motors, LLC	83%	BH Auto	28242 Marguerite Pkwy	Mission Viejo	CA	92692	X
MVZ DaVita Dusseldorf GmbH	17.95%	DaVita Healthcare	Feldbrunnenstr. 57	Hamburg	Germany	20148	X
MVZ Dresden Betriebs GmbH	17.95%	DaVita Healthcare	Caspar-David-Friedrich-Str. 10a	Dresden	Germany	01219	X
MW Wholesale, Inc.	100%	Mindware	P.O. Box 45307	Omaha	NE	68145	X
Nadell Dialysis, LLC	17.95%	DaVita Healthcare	4650 38th Avenue	Moline	IL	61265	X
NAN Real Estate	100%	Iscar					X
NAN Technology	100%	Iscar					X
Nancy's Specialty Foods, Inc.	26.86%	Kraft Heinz	1763 Tice Valley Blvd.	Walnut Creek	CA	94595	X
NA-NetJets Aviation Ltda.	100%	NetJets	Avenida Das Descobertas, Galerias Alto Da Barra Piso 4	Oeiras	Portugal		X
Nangchang Cemented Carbide LLC	21.43%	Iscar	1173 Shuanggang dongdadao, ETDZ	Jiangxi Nanchang	Jiangxi, China	330013	X
Nanjing Jilun Seasoning Products Pte. Ltd.	26.86%	Kraft Heinz		Nanjing	Jiangsu Province, China		X
National Express Company, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285-3002	X
National Fire & Marine Insurance Company	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
National Indemnity Company	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
National Indemnity Company of Mid-America	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
National Indemnity Company of the South	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
National Liability & Fire Insurance Company	100%	National Indemnity	22 Ocean Drive N.	Stamford	CT	06902	X
National Re Corp.		General Re	695 E. Main Street	Stamford	CT	06904	X
National Trail Dialysis, LLC	17.95%	DaVita Healthcare	171 S Tuttle Road	Springfield	OH	45505	X
Nationwide Uniforms		Fechheimer		Hodgenville	KY	42748	X
Natomas Dialysis, LLC	17.95%	DaVita Healthcare	30 Golden Land Ct, Bldg G	Sacramento	CA	95834	X
Nature's Delicious Foods Group LLC	26.86%	Kraft Heinz	Three Lakes Drive	Northfield	IL	60093	X
Nebraska Furniture Mart, Inc.	80.1%	Nebraska Furniture Mart	700 South 72nd Street	Omaha	NE	68114	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Nederlandse Reassurantie Groep NV	100%	National Indemnity	Gravendijckseweg 45	Noordwijk	Netherlands	2201 CZ	X
Nederlandse Reassurantie Groep NV Canadian Branch		National Indemnity	995 Dupont Street	Toronto	Ontario, Canada	M6H 1Z5	
NEF Affordable Housing Investment Fund II LP	99.99%	Shaw	120 S Riverside Plz	Chicago	IL	60606	X
NEF Affordable Housing Investment Fund III, LP	99.99%	Clayton Homes	120 S Riverside Plz	Chicago	IL	60606	X
NEF Affordable Housing Investment Fund LP	99.99%	Shaw	120 S Riverside Plz	Chicago	IL	60606	X
Neff Dialysis, LLC	17.95%	DaVita Healthcare	1710 Center Ave W	Dilworth	MN	56529	X
Nephrolife Care (India) Pte. Ltd.	17.95%	DaVita Healthcare	#1, First Floor, Berlie Street Langford Town, Shantinagar	Bengaluru	India	560027	X
Nephrology Medical Associates of Georgia, LLC	17.95%	DaVita Healthcare	1627 Cole Blvd, Bldg 18	Lakewood	CO	80401	X
Neptune Artificial Kidney Center, LLC	17.95%	DaVita Healthcare	3297 State Route 66	Neptune	NJ	07753	X
NetJets - Servicos de Gestao, Sociedade Unipessoal, Lda.	100%	NetJets	Rua Calvet Magalhães Nr. 245 Bloco B	Paço de Arcos, Oeiras	Portugal		
NetJets Aviation Limited	100%	NetJets	Concorde House, Westbourne Road	Ramsey	Isle of Man	IM8 2ER	X
NetJets Aviation, Inc.	100%	NetJets	4111 Bridgeway Ave.	Columbus	OH	43219-1882	X
NetJets Business Aviation Limited	24.5%	NetJets		Zhuhai, Guandong Province	China		X
NetJets Business Consulting (Zhuhai) Limited	100%	NetJets		Zhuhai, Guandong Province	China		X
NetJets China (Hong Kong) Limited	24.5%	NetJets			Hong Kong		X
NetJets China Business Aviation Limited	24.5%	NetJets		Zhuhai, Guandong Province	China		X
NetJets China Business Consulting (Zhuhai) Limited	100%	NetJets		Zhuhai, Guandong Province	China		X
NetJets Deutschland GmbH	100%	NetJets	Elsenheimerstr. 43	Munich	Germany	80687	X
NetJets Europe GmbH	100%	NetJets	Grundstrasse 12	Rotkreuz	Switzerland	6343	X
NetJets Europe Holdings SGPS, Lda	100%	NetJets			Portugal		X
NetJets Europe Holdings, LLC	100%	NetJets	581 Main Street	Woodbridge	NJ	07095	X
NetJets Europe L.P.		NetJets			Cayman Islands		X
NetJets Europe Ltd.		NetJets	Grundstrasse 12, 6343	Rotkreuz	Switzerland		X
NetJets Europe, Sociedade Unipessoal Lda	100%	NetJets	Rua Calvet De Magalhães, 245 Bloco B	Paço De Arcos, Oeiras	Portugal	2774-550	X

BERKSHIRE HATHAWAY INC. (10% and greater)

NetJets Finance AG		NetJets		Rotkruez	Switzerland		X
NetJets Finance LLC	100%	NetJets					X
NetJets France SARL	100%	NetJets	151 BD Haussmann	Paris	France	75008	X
NetJets Inc.	100%	NetJets	581 Main Street	Woodbridge	NJ	07095	X
NetJets International, Inc.	100%	NetJets	108 Traders Cross, Suite 200	Okatie	SC	29909	X
NetJets IP, LLC	100%	NetJets	4111 Bridgeway Ave.	Columbus	OH	43219-1882	X
NetJets Large Aircraft Company, LLC		NetJets	130 Signature Way	East Granby	CT	06026	X
NetJets Large Aircraft Sales, LLC		NetJets	130 Signature Way	East Granby	CT	06026	X
NetJets Large Aircraft, Inc.	100%	NetJets	130 Signature Way	East Granby	CT	06026	X
NetJets London Ltd.	100%	NetJets	5 Young Street	London	England	W8 5EH	X
NetJets Luxembourg Holding Company Sarl	100%	NetJets	46A, avenue J.F. Kennedy	Luxembourg	Luxembourg		X
NetJets Management Ltd.	100%	NetJets	5 Young Street	London	England	W8 5EH	X
NetJets ME, Inc.		NetJets	581 Main Street	Woodbridge	NJ	07095	X
NetJets Middle East		NetJets	Saudi Business Ctr - 14th Fl. Medinah Road	Jeddah	Saudi Arabia	21415	X
NetJets Sales, Inc.	100%	NetJets	4111 Bridgeway Ave.	Columbus	OH	43219-1882	X
NetJets Services, Inc.	100%	NetJets	4111 Bridgeway Ave.	Columbus	OH	43219-1882	X
NetJets Solar Schools Project, LLC	100%	NetJets	4111 Bridgeway Ave.	Columbus	OH	43219-1882	X
NetJets Staff Management Ltd.		NetJets		Isle of Man	UK		X
NetJets Strategic Holdings (Asia) Limited	50%	NetJets		Hong Kong	Hong Kong		
NetJets Transportes Aéreos UK Limited	100%	NetJets	5 Young Street	London	England		X
NetJets Transportes Aeros, SA	49%	NetJets	Rua Calvet Magalhães Nº245 Bloco B	Paço D'Arcos	Portugal	2775-550	X
NetJets U.S., Inc.	100%	NetJets	581 Main Street	Woodbridge	NJ	07095	X
NetJets UK Limited Portugal Branch	100%	NetJets			Portugal		X
NetJets UK Ltd.	100%	NetJets	60 Sloane Avenue	London	England	SW3 3DD	X

BERKSHIRE HATHAWAY INC. (10% and greater)

New Bay Dialysis, LLC	17.95%	DaVita Healthcare	5640 International Parkway	New Hope	MN	55428	X
New Fine Tool Co., Ltd.		Iscar	2-8-6 Komaoka	Tsurumi-ku, Yokohama	Japan	230-0071	X
New FOL Inc.		Fruit of the Loom					X
New Springs Dialysis, LLC	17.95%	DaVita Healthcare	1201 N Jim Day Road # 103	Salem	IN	47167	X
News & Record	100%	BH Media	200 E. Market St.	Greensboro	NC	27401	X
NexCoil Processing, LLC		MiTek	212 South 37th Ave., Suite 110A	Phoenix	AZ	85009	X
NFM of Kansas, Inc.	80.1%	Nebraska Furniture Mart	700 South 72nd Street	Omaha	NE	68114	X
NFM Services LLC	80.1%	Nebraska Furniture Mart	14801 Quorum Dr Ste 500	Dallas	TX	75254	X
NFVT Motors, LLC	81%	BH Auto	6600 State Highway 121	Frisco	TX	75034	X
NHD Group Limited		Marmon	575 Conestoga Blvd.	Cambridge	Ontario Canada	N1R 7P5	X
Nisene Dialysis, LLC	17.95%	DaVita Healthcare	110 7th Street W	Park Rapids	MN	56470	X
Nissan of McKinney (d/b/a for NMVT Motors, LLC)	71%	BH Auto	3800 S. Central Expressway	McKinney	TX	75069	X
NJ Asia Limited	100%	NetJets			Hong Kong		X
NJ Brokerage LLC	100%	NetJets	4111 Bridgeway Ave.	Columbus	OH	43219-1882	X
NJ Executive Services, Inc.		NetJets	4111 Bridgeway Ave.	Columbus	OH	43219-1882	X
NJE Holdings, LLC	100%	NetJets		Woodbridge	NJ		X
NJF Acquisition LLC	100%	NetJets	4111 Bridgeway Ave.	Columbus	OH	43219-1882	X
NJI Sales, Inc.	100%	NetJets	Two Leadership Square 10th Floor	Oklahoma City	OK	73102	X
NJI, Inc.		NetJets	108 Traders Cross	Okatie	SC	29909	X
NMVT Motors, LLC	71%	BH Auto	3800 S Central Expressway	McKinney	TX	75069	X
Noble Insurance Company Limited	26.86%	Kraft Heinz		Dublin	Ireland		X
Nocona Boot Company	100%	Justin Brands	P.O. Box 548	Fort Worth	TX	76101	X
Nominees One Limited	14.65%	American Express					X
Nominees Two Limited	14.65%	American Express					

BERKSHIRE HATHAWAY INC. (10% and greater)

Nora Leasing, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Nord Bitumi Canada Limited	100%	Johns Manville	717 17th Street	Denver	CO	80202	
Nord Bitumi S.p.A.		Johns Manville	Via Campagnola, 8-Loc. Valle	Sona	Italy	37060	X
NorGuard Insurance Company	100%	National Indemnity	16 S River Street	Wilkes-Barre	PA	18702	X
North American Casualty Co.	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
North American Casualty Group		Applied Underwriters	5 Thomas Mellon Circle	San Francisco	CA	94134	X
North Atlanta Dialysis Center, LLC	17.95%	DaVita Healthcare	40 Technology Pkwy South #300	Norcross	GA	30092	X
North Austin Dialysis, LLC	17.95%	DaVita Healthcare	1720 E Whitestone Blvd	Cedar Park	TX	78613	X
North Colorado Springs Dialysis, LLC	17.95%	DaVita Healthcare	6071 E Woodmen Rd, Ste 100	Colorado Springs	CO	80923	X
North Platte Publishing Company, Inc.	100%	BH Media	621 N Chestnut Street	North Platte	NE	69101	X
North Platte Telegraph (d/b/a for North Platte Publishing Company, Inc.)	100%	BH Media	621 N Chestnut Street	North Platte	NE	69101	X
Northern Radio Limited	100%	BNSF Railway	Douglas Bank House, Wigan Lane	Wigan, Lancashire	England	WN1 2TB	X
Northern States Agency, Inc.	100%	National Indemnity	2145 Ford Pkwy # 202	St. Paul	MN	55116	X
Northampton Acquisition Limited	100%	Larson Juhl	2 Wolseley Road, Kempston	Bedford	UK	MK42 7AD	X
Northland Motor Technologies		Scott Fetzer	2268 Fairview Blvd	Fairview	TN	37062	X
Northolt Business Aviation, Ltd.		NetJets	116 Saint Aldates	Oxford	Oxfordshire	OX1 1HA	X
Northridge Medical Services Group, Incorporated	17.95%	DaVita Healthcare	19191 S Vermont Ave #200	Torrance	CA	90502	X
Northwest Corner Affordable Housing Partners LLLP	99.99%	Affordable Housing					X
Northwest Tucson Dialysis, LLC	17.95%	DaVita Healthcare	2945 W Ina Rd, Suite 105	Tucson	AZ	85741	X
Northwoods Housing LLLP	99.99%	Affordable Housing	7539 Front St NW	Walker	MN	56484	X
Norwegian Tools AS		TaeguTec	Oslovegen 64 PB 757	Moss	Norway	1534	X
Noveon Hilton Davis, Inc.	100%	Lubrizol	2235 Langdon Farm Road	Cincinnati	Ohio	45237	X
Noveon Verwaltungs GmbH	100%	Lubrizol	Max-Planck-Street 6	Ritterhude	Germany	27721	X
Novosurge Technologies Ltd.	25.22%	Iscar	38 Habarzel Street	Tel Aviv	Israel	69710	X

BERKSHIRE HATHAWAY INC. (10% and greater)

NRG America Holding Company	100%	National Indemnity	1234 Market Street	Philadelphia	PA	19107-3721	X
NRG Antillean Holding NV		National Indemnity					X
NRG London Reinsurance Company Limited		National Indemnity	264 George Street	Sydney	Australia	NSW 2000	X
NRG Victory Australia Holdings Limited		National Indemnity	Level 7, 70 Phillip Street	Sydney	Australia	NSW 2000	X
NRG Victory Australia Limited		National Indemnity	264 George Street	Sydney	Australia	NSW 2000	X
NRG Victory Holdings Limited	100%	National Indemnity	Castle House, Castle Hill Ave	Folkstone, Kent	UK	CT20 2TF	X
NRG Victory Management Services Limited		National Indemnity	Charter House, Park Street	Ashford, Kent	UK	TN24 8EQ	X
NRG Victory Reinsurance Limited	100%	National Indemnity	Charter House, Park Street	Ashford, Kent	UK	TN24 8EQ	X
NRG Victory Reinsurance Limited Canadian Branch		National Indemnity	100 King St West, 37th Floor	Toronto	Ontario, Canada		X
NTA Transport Holdings Limited	25%	NetJets	5 Young Street, 4th Floor	London	England	W8 5EH	X
NuCraft Homes, LLC	51%	Clayton Homes	500 Alcoa Trail	Maryville	TN	37804	X
Nuevo Dialysis, LLC	17.95%	DaVita Healthcare	25332 Cabot Road	Laguna Hills	CA	92653	X
Nufama Holding B.V.	100%	CTB International					X
NU-LINE Products Inc.	100%	Marmon	891 Arvin Avenue	Hamilton	Ontario, Canada	L8E 5N9	X
Nylok LLC	100%	Marmon	15260 Hallmark Drive	Macomb	MI	48042	X
O.O.O. Meyn	100%	CTB International	g Moskva, ul Admirala Makarova, d 8, str 1	Moscow	Russia	125212	X
O.R.A. LLC	26.86%	Kraft Heinz	1372 1st Avenue # 2B	New York	NY	10021	X
Oak River Insurance Company	100%	National Indemnity	9290 W Dodge Rd., Suite 300	Omaha	NE	68114	X
Oakland Building Materials (d/b/a for L&W Supply Corporation)	29.95%	USG	1099 Doris Road	Auburn Hills	MI	48326	X
Oasis Dialysis, LLC	17.95%	DaVita Healthcare	1213 Herman Dr, Suite 180	Houston	TX	77004	X
OCSAP Ltd.		HH Brown	71 Railroad Ave	Dexter	ME	04930	X
Ohio River Dialysis, LLC	17.95%	DaVita Healthcare	3497 South Dixie Highway	Franklin	OH	45005	X
Okanogan Dialysis, LLC	17.95%	DaVita Healthcare	2916 N State Road 7	Lauderdale Lakes	FL	33313	X
Old City Paint & Decorating, Inc.		Benjamin Moore	8002 Germantown Ave	Philadelphia	PA	19118-3421	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Old United Casualty Company	100%	BH Auto	8500 Shawnee Mission Pkwy #210	Merriam	KS	66202	X
Old United Life Insurance Company	100%	BH Auto	8500 Shawnee Mission Pkwy	Merriam	KS	66202	X
Olive Dialysis, LLC	17.95%	DaVita Healthcare					X
Olivewood Apartments, LP	99.99%	Affordable Housing	111 Rolling Meadows Rd	Ridgeland	MS	39157	X
Omaha World-Herald Company	100%	BH Media	1334 Dodge Street	Omaha	NE	68102	X
One Centre Square Group, LLC	76%	Clayton Homes	620 Market St., Suite 100	Knoxville	TN	37902	X
Opelika-Auburn News	100%	BH Media	2901 Society Hill Road	Opelika	AL	36801	X
Open Access Lifeline, LLC	17.95%	DaVita Healthcare	16400 NW 2nd Ave, Suite 101	North Miami Beach	FL	33169	X
Orange County Review	100%	BH Media	110 Berry Hill Road	Orange	VA	22960	X
Orange Dialysis, LLC	17.95%	DaVita Healthcare	10055 Whittwood Drive	Whittier	CA	90603	X
Orange Julius Canada, Ltd.	100%	Dairy Queen	5245 Harvester Road	Burlington	Ontario, Canada	L7R 3Y3	X
Orange Julius of America	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	X
Orange Redevelopment AR II, LP	99.99%	Affordable Housing		Orange	TX		X
Orange Redevelopment PG, LP	99.99%	Affordable Housing		Orange	TX		X
Orange Redevelopment VJ, LP	99.99%	Affordable Housing		Orange	TX		X
Orange Redevelopment WO, LP	99.99%	Affordable Housing		West Orange	TX		X
Oriental Trading Company, Inc.	100%	Berkshire Hathaway	5455 South 90th Street	Omaha	NE	68127	X
Osage Dialysis, LLC	17.95%	DaVita Healthcare	6225 Atlanta Hwy, Suite 117	Alpharetta	GA	30004	X
OTC Brands, Inc.	100%	Berkshire Hathaway	1216E US Highway One	North Palm Beach	FL	33408	X
OTC Direct, Inc.	100%	Berkshire Hathaway	5455 South 90th Street	Omaha	NE	68127	X
OTC Worldwide Holdings, Inc.	100%	Berkshire Hathaway	4206 S. 108th	Omaha	NE	68137	X
Otsego Paper, Inc.	29.95%	USG	320 N Farmer Street	Otsego	MI	49078	X
Outiltec E.U.R.L.	100%	Iscar	2 rue Louis Armand - BP 14	Soufflenheim	France	67620	X
Owasso Dialysis, LLC	17.95%	DaVita Healthcare	9521 N Owasso Expy	Owasso	OK	74055	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Owasso Reporter	100%	BH Media	202 E. 2nd Ave., Suite 101	Owasso	OK	74055	X
Owl Wire and Cable LLC	100%	Marmon	3127 Seneca Turnpike	Canastota	NY	13032	X
P Chem, Inc.	100%	Lubrizol	650 North Sam Houston Parkway East, Suite 541	Houston	TX	77060	X
P.T. Heinz ABC Indonesia (75% thru Heinz Asean Pte Ltd)	20.14%	Kraft Heinz		Jakarta	Indonesia		X
P66REX LLC	11.4%	Phillips 66					X
Pacheco Dialysis, LLC	17.95%	DaVita Healthcare	1007 E Kearney Street	Springfield	MO	65803	X
Pacific Gateway Insurance Agency (d/b/a for Ringwalt & Liesche Co.)	100%	National Indemnity	27200 Tourney Rd. Suite 360	Valencia	CA	91355	X
Pacific Paint Centre Inc.		Benjamin Moore	2065B Keating Cross Road	Saanichton	BC	V8M 2A5	X
Paducah & Illinois Railroad Company	33.34%	BNSF Railway	455 North Cityfront Plaza Drive	Chicago	IL	60611	X
Paint & Decorating Depot Inc.		Benjamin Moore	8041 A Watson Road	St. Louis	MO	63119	X
Paint Rental Associates Inc.		Benjamin Moore	30-35 Thomson Avenue	Long Island City	NY	11101	X
Pakistan (Private) Limited	14.65%	American Express					X
Palace Building, LLC		BH Media		Omaha	NE		X
Paladina Health Group of Washington, P.C.	17.95%	DaVita Healthcare	1551 Wewatta Street	Denver	CO	80202	X
Paladina Health, LLC	17.95%	DaVita Healthcare	1551 Wewatta Street	Denver	CO	80202	X
Palmetto Dialysis, LLC	17.95%	DaVita Healthcare	102 Richardson Crossing	Arnold	MO	63010	X
Palo Dialysis, LLC	17.95%	DaVita Healthcare					X
Palomar Dialysis, LLC	17.95%	DaVita Healthcare	3201 Doolan Rd, Suite 175	Livermore	CA	94551	X
Pampered Chef Import Mexico LLC		Pampered Chef	Calzada del Valle 400 ote, local 34 y 35, Colonia Del Valle	San Pedro Garza Garcia, NL	Mexico	CP66220	X
Pan Am Shoe LLC	100%	HH Brown	P.O. Box 509	Camuy	Puerto Rico	00627	X
Pan American Screw LLC	100%	Marmon	630 Reese Drive	Conover	NC	28613	X
Papillon Times (d/b/a for Suburban Newspapers, Inc.)		BH Media	604 Fort Crook Rd North	Bellevue	NE	68005	X
Paramount Industries Ltd.	100%	HH Brown		Hong Kong			X
Park Manor Estates II LP	99.99%	National Indemnity	620 Mendelssohn Ave #107	Golden Valley	MN	55427	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Parker Dialysis, LLC	17.95%	DaVita Healthcare	221 Plaza Drive	Monroe	GA	30655	X
Particle Sciences, Inc.	100%	Lubrizol	3894 Courtney Street	Bethlehem	PA	18017	X
Pasco Ltd.	100%	HH Brown		Santa Domingo	Dominican Republic		X
Passive Fire Protection Partners			1412 Derwent Way	Delta BC	Canada	V3M 6H9	X
Patch Dialysis, LLC	17.95%	DaVita Healthcare	4753 W Shaw Avenue	Fresno	CA	93722	X
Patient Pathways, LLC	17.95%	DaVita Healthcare	150 S Perry Street	Montgomery	AL	36104	X
Patoka Dialysis, LLC	17.95%	DaVita Healthcare	1983 W Hillsboro Blvd	Deerfield Beach	FL	33442	X
Pavilion Services, LLC	100%	Larson Juhl	3900 Steve Reynolds Blvd.	Norcross	GA	30093	
Payback GmbH	14.65%	American Express	Theresienhöhe 12	Munich	Germany	80339	X
Payback Italia S.r.l.	14.65%	American Express	Piazza Mignanelli, 25	Rome	Italy	00187	X
Payback Mexico S. de R.L. de C.V.	14.65%	American Express			Mexico		X
Peaks Dialysis, LLC	17.95%	DaVita Healthcare	14800 Westheimer Rd, Suite A	Houston	TX	77082	X
Pearl Dialysis, LLC	17.95%	DaVita Healthcare	14050 Pilot Knob Road	Apple Valley	MN	55124	X
Peinture & Décor Gorak (Outremont) Inc.	84.4%	Benjamin Moore	794, avenue de l'Epee	Outremont	Quebec, Canada	H2V 3T9	X
Peinture et Décor Cap-de-la-Madeleine Inc.		Benjamin Moore	300, rue Barkoff	Trois-Rivières	Quebec, Canada	G8T 2A3	X
Peinture Jonquiere Inc.		Benjamin Moore	3569, boulevard Harvey	Jonquiere	Quebec, Canada	G7X 3B6	X
Peinture Louis Gince (Cap-de-la-madeleine) Inc.		Benjamin Moore	300, rue Barkoff, #50	Cap-de-la-madeleine	Quebec, Canada	G8T 2A3	X
Peinture Montreal Metro Inc. (Cote-Vertu) St. Laurent		Benjamin Moore	3405, Cote Vertu	Ville St-Laurent	Quebec, Canada	H4R 1R2	X
Peinture Prefontaine Inc. (St-Hyacinthe)		Benjamin Moore	2515, boul. Casavant ouest	St-Hyacinthe	Quebec, Canada	J2S 8B8	X
Pekin Dialysis, LLC	17.95%	DaVita Healthcare	1021 Court Street	Pekin	IL	61554	X
Penn Aluminum International LLC	100%	Marmon	Box 490, 1117 North 2nd St.	Murphysboro	IL	62966	X
Penn Coal Land, Inc.	100%	Marmon	243 Fetterolf Road	Boswell	PA	15531	X
Penn Machine Company LLC	100%	Marmon	106 Station Street	Johnstown	PA	15905	X
Pennsylvania Insurance Company	100%	Applied Underwriters	436 Walnut Street	Philadelphia	PA	19106	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Peoria Ford (d/b/a for PFVT Motors, LLC)	78%	BH Auto	9130 W Bell Rd.	Peoria	AZ	85382	X
Peoria Nissan (d/b/a for PNVT Motors, LLC)	85%	BH Auto	9151 W. Bell Rd.	Peoria	AZ	85382	X
Peoria SLF LP	99.99%	Affordable Housing		Peoria	IL		X
Percha Dialysis, LLC	17.95%	DaVita Healthcare	74 Camaritas Ave	South San Francisco	CA	94080	X
Perdue Trademark Subsidiary, Inc.	26.86%	Kraft Heinz					X
Perfection Auto Part (Shanghai) Co. Ltd.	100%	Marmon	Ltd T6 4 1f 356 Longgui Rd Jinqiao Epz	South Area Pudong District, Shanghai	China		X
Perfection Clutch		Marmon	100 Perfection Way	Timmonsville	SC	29161	X
Perfection de Mexico, SAPI de CV	50%	Marmon	Manuel Maria Contreras Ote No. 312 Col.Del Norte	Monterrey, Nuevo Leon	Mexico		X
Perfection HY-Test Company	100%	Marmon	1025 Legrand Boulevard	Charleston	SC	29492	X
Perry County Properties, LP	99.99%	Affordable Housing	111 Rolling Meadows Rd	Ridgeland	MS	39157	X
Petroproduct-Otradnoye Ltd.	26.86%	Kraft Heinz		St. Petersburg	Russia		X
Pfeiffer Dialysis, LLC	17.95%	DaVita Healthcare	12051 Westpark Dr, Suite 100	Houston	TX	77082	X
PFVT Development, Inc.	100%	BH Auto	1550 E. Missouri Ave #300	Phoenix	AZ	85014	X
PFVT Motors, LLC	78%	BH Auto	9130 W Bell Rd.	Peoria	AZ	85382	X
Phenix Management Corporation	26.86%	Kraft Heinz	40 Water Street	Saco	Mexico	04072	X
Philadelphia Reinsurance Corporation	100%	National Indemnity	1234 Market Street	Philadelphia	PA	19107	X
Phillips 66	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Phillips 66 America's Holdings LLC	11.4%	Phillips 66					X
Phillips 66 America's LLC	11.4%	Phillips 66					X
Phillips 66 Asia Ltd.	11.4%	Phillips 66					X
Phillips 66 Asia Pacific Investments Ltd.	11.4%	Phillips 66					X
Phillips 66 Aviation LLC	11.4%	Phillips 66	411 South Keeler Ave.	Bartlesville	OK	74004	X
Phillips 66 Bantry Bay Terminal Limited	11.4%	Phillips 66	Whitegate, Midleton	Cork	Ireland		X
Phillips 66 Canada Ltd.	11.4%	Phillips 66	401 - 9th Ave SW, 8th Floor	Calgary	Alberta, Canada	T2P 3C5	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Phillips 66 Carrier LLC	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Phillips 66 Central Europe Inc.	11.4%	Phillips 66					X
Phillips 66 Communications Inc.	11.4%	Phillips 66	600 N Dairy Ashford Road	Houston	TX	77079	X
Phillips 66 Company	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Phillips 66 Continental Holding GmbH	11.4%	Phillips 66	Caffamacherreihe 1	Hamburg	Germany	20355	X
Phillips 66 CS Limited	11.4%	Phillips 66	Portman House	London	UK	W1H 6DU	X
Phillips 66 Developments LLC	11.4%	Phillips 66	760 Plaza Office Building	Bartlesville	OK	74004	X
Phillips 66 Energy Technologies LLC	11.4%	Phillips 66					X
Phillips 66 European Power Limited	11.4%	Phillips 66	200-202 Aldersgate St, 7th Fl.	London	UK	EC1A 4HD	X
Phillips 66 Finance LLC	11.4%	Phillips 66					X
Phillips 66 Finance Ltd.	11.4%	Phillips 66					X
Phillips 66 Funding Ltd.	11.4%	Phillips 66					X
Phillips 66 GmbH	11.4%	Phillips 66	Industriestrasse 49	Zug	Germany	6300	X
Phillips 66 Holdings Ltd.	11.4%	Phillips 66			Cayman Islands		X
Phillips 66 International Inc.	11.4%	Phillips 66	1 Temasek Avenue, No. 40-01 Milenia Tower	Singapore	Singapore	039192	X
Phillips 66 International Investments Ltd.	11.4%	Phillips 66			Cayman Islands		X
Phillips 66 International Trading Pte. Ltd.	11.4%	Phillips 66	1 Temasek Avenue, No. 40-01 Milenia Tower	Singapore	Singapore	039192	X
Phillips 66 Ireland Limited	11.4%	Phillips 66	Whitegate, Midleton	Cork	Ireland		X
Phillips 66 Ireland Pension Trust Limited	11.4%	Phillips 66	Whitegate, Midleton	Cork	Ireland		X
Phillips 66 Limited	11.4%	Phillips 66	200-202 Aldersgate St, 7th Fl.	London	UK	EC1A 4HD	X
Phillips 66 Marine International Ltd.	11.4%	Phillips 66			Cayman Islands		X
Phillips 66 Mountrail Terminal LLC	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Phillips 66 Partners Finance Corporation	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Phillips 66 Partners GP LLC	11.4%	Phillips 66	411 South Keeler Ave Ste 523	Bartlesville	OK	74003	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Phillips 66 Partners Holdings LLC	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Phillips 66 Partners LP	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Phillips 66 Payment Systems LLC	11.4%	Phillips 66					X
Phillips 66 Pension Plan Trustee Limited	11.4%	Phillips 66	200-202 Aldersgate St, 7th Fl.	London	UK	EC1A 4HD	X
Phillips 66 Pipeline LLC	11.4%	Phillips 66	600 North Dairy Ashford	Houston	TX	77079	X
Phillips 66 Polypropylene Canada Inc.	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Phillips 66 Power Generation Services LLC	11.4%	Phillips 66					X
Phillips 66 Project Development Inc.	11.4%	Phillips 66	211 E. 7th Street, Suite 620	Austin	TX	78701	X
Phillips 66 Receivables Funding LLC	11.4%	Phillips 66	115 SW 89th Street	Oklahoma City	OK	73139	X
Phillips 66 Resources Ltd.	11.4%	Phillips 66			Cayman Islands		X
Phillips 66 Sand Hills LLC	11.4%	Phillips 66					X
Phillips 66 Services (Malaysia) Sdn. Bhd.	11.4%	Phillips 66	Level 32 Menara Maxis Kuala Lumpur City Centre	Kuala Lumpur	Malaysia	50088	X
Phillips 66 Southern Hills LLC	11.4%	Phillips 66					X
Phillips 66 Stillwater Retail Corporation	11.4%	Phillips 66					X
Phillips 66 Sweeny Cogen GP, Inc.	11.4%	Phillips 66					X
Phillips 66 Sweeny Cogen LP, LLC	11.4%	Phillips 66	211 E. 7th Street, Suite 620	Austin	TX	78701	X
Phillips 66 Trading Limited	11.4%	Phillips 66	2 Portman Street	London	UK	W1H 6DU	X
Phillips 66 Treasury Limited	11.4%	Phillips 66	200-202 Aldersgate St, 7th Fl.	London	UK	EC1A 4HD	X
Phillips 66 TS Limited	11.4%	Phillips 66	200-202 Aldersgate St, 7th Fl.	London	UK	EC1A 4HD	X
Phillips 66 UK Development Limited	11.4%	Phillips 66	200-202 Aldersgate St, 7th Fl.	London	UK	EC1A 4HD	X
Phillips 66 UK Funding Limited	11.4%	Phillips 66	200-202 Aldersgate St, 7th Fl.	London	UK	EC1A 4HD	X
Phillips 66 UK Holdings Limited	11.4%	Phillips 66	2 Portman Street	London	UK	W1H 6DU	X
Phillips 66 Whitegate Refinery Limited	11.4%	Phillips 66	Whitegate, Midleton	Cork	Ireland		X
Phillips 66 WRB Partner LLC	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Phillips Chemical Holdings LLC	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Phillips Gas Company	11.4%	Phillips 66					X
Phillips Gas Company Shareholder, Inc.	11.4%	Phillips 66					X
Phillips Gas Pipeline Company	11.4%	Phillips 66	770 Plaza	Bartlesville	OK	74004	X
Phillips Specialty Products RUS LLC	100%	Lubrizol			Russia		X
Phillips Texas Pipeline Company, Ltd.	11.4%	Phillips 66	600 N Dairy Ashford Road	Houston	TX	77079	X
Phillips Utility Gas Corporation	11.4%	Phillips 66	P.O. Box 2197	Houston	TX	77252	X
Physicians Choice Dialysis of Alabama, LLC	17.95%	DaVita Healthcare	125 Hospital Drive	Wetumpka	AL	36092	X
Physicians Choice Dialysis, LLC	17.95%	DaVita Healthcare	211 Commerce Court Ste 104	Pottstown	PA	19464	X
Physicians Dialysis Acquisitions, Inc.	17.95%	DaVita Healthcare	601 Hawaii Street	El Segundo	CA	90245	X
Physicians Dialysis of Houston, LLP	17.95%	DaVita Healthcare	5989 South Loop E	Houston	TX	77033	X
Physicians Dialysis of Lancaster, LLC	17.95%	DaVita Healthcare	2110 Harrisburg Pike	Lancaster	PA	17601	X
Physicians Dialysis Ventures, Inc.	17.95%	DaVita Healthcare	601 Hawaii Street	El Segundo	CA	90245	X
Physicians Dialysis, Inc.	17.95%	DaVita Healthcare	11 State Street	Woburn	MA	01801	X
Physicians Management, LLC	17.95%	DaVita Healthcare	1551 Wewatta Street	Denver	CO	80202	X
Pible Dialysis, LLC	17.95%	DaVita Healthcare	509 N Sable Blvd	Aurora	CO	80011	X
PigTek Europe Deurne B.V.	100%	CTB International	Dr Huub van Doorneweg 16	Deurne	Netherlands		X
PigTek Europe GmbH	100%	CTB International	Industriestraße 7	Schüttorf	Germany	D-48465	X
PigTek Pig Equipment Group (<i>d/b/a for CTB, Inc.</i>)	100%	CTB, Inc.	410 N. Higbee Street	Milford	IN	46542	X
Pike Dialysis, LLC	17.95%	DaVita Healthcare	10923 Scarsdale Blvd	Houston	TX	77089	X
PIN Holding	80%	Iscar					X
PIN Technology	80%	Iscar					X
Pine Canyon Land Company		BNSF Railway	1700 E Golf Road	Schaumburg	IL	60173	
Pine Dialysis, LLC	17.95%	DaVita Healthcare	1 Westbank Expressway	Westwego	LA	70094	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Pine Grove Ackerman, LP	99.99%	Affordable Housing	111 Rolling Meadows Road	Ridgeland	MS	39157	X
Pineview Housing LLLP	99.99%	Affordable Housing	7539 Front St NW	Walker	MN	56484	X
Pinnacle Nissan, LLC <i>d/b/a Pinnacle Nissan</i>	93%	BH Auto	7601 E. Frank Lloyd Wright Blvd	Scottsdale	AZ	85260	X
Pinnacle Paint & Decorating, Inc.		Benjamin Moore	173 Main Street	Norwalk	CT		X
Pioneer Investments Corp.	11.4%	Phillips 66	600 N Dairy Ashford Road	Houston	TX	77079	X
Pioneer Pipe Line Company	11.4%	Phillips 66	404 6th Street	Rawlins	WY	82301	X
Pittsburg Dialysis Partners, LLC	17.95%	DaVita Healthcare	5171 Liberty Ave, Suite C	Pittsburgh	PA	15224	X
PIVT Motors, LLC	93%	BH Auto	9167 W. Bell Road	Peoria	AZ	85382	X
PJR Management, Inc.		Dairy Queen	1200 S Main Street	West Bend	WI	53095-4928	X
Plaine Dialysis, LLC	17.95%	DaVita Healthcare	1525 Plumas Court, Suite A	Yuba City	CA	95991	X
Plainfield Supply (<i>d/b/a for L&W Supply Corporation</i>)	29.95%	USG	1700 Division Street	Plainfield	IL	60544	X
Plateau Dialysis, LLC	17.95%	DaVita Healthcare	1817 E Little Creek Rd, Ste B	Norfolk	VA	23518	X
Platte Dialysis, LLC	17.95%	DaVita Healthcare	1373 E Boone Street	Tahlequah	OK	74464	X
Playa del Pueblo, Ltd.	99.99%	National Indemnity	208 S Marienfeld St	Midland	TX	79701	X
Plaza Financial Services Company	100%	GEICO	5260 Western Avenue	Chevy Chase	MD	20815	X
Plaza Investment Managers, Inc.		GEICO	5951 La Sendita Avenue	Rancho Santa Fe	CA	92067-9999	X
Plaza Paint & Décor Inc.		Benjamin Moore	34 Plaza Blvd.	Moncton	NB	K1C 0G4	X
Plaza Paint & Decorating Centers, Inc.		Benjamin Moore	1330 S.W. 34th Street	Palm City	FL	34990	X
Plaza Resources Company		GEICO	1 Geico Plaza	Washington	DC	20076	X
Plaza Square 50 LP	99.99%	National Indemnity	50 Plaza Square	St. Louis	MO	63103	X
PLICO, Inc.	100%	Medical Protective	226 Dean A. McGee Ave, Suite 200	Oklahoma City	OK	73102	X
PMC, a Division of R-SCC		Marmon Wire & Cable	680 Hayward St.	Manchester	NH	03103	X
PNVT Motors, LLC	85%	BH Auto	9151 W. Bell Rd.	Peoria	AZ	85382	X
Pobello Dialysis, LLC	17.95%	DaVita Healthcare	21026 W Belfort Street	Richmond	TX	77406	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Point Place Partners, LP	99.99%	National Indemnity	149 Concourse Drive	Pearl	MS	39208	X
Pointe Dialysis, LLC	17.95%	DaVita Healthcare	1964 Ashley River Rd, Suite D-3	Charleston	SC	29407	X
Pollio Italian Cheese Company	26.86%	Kraft Heinz	8596 Main Street	Campbell	NY	14821	X
Polywert Faserrecycling GmbH	33.66%	Johns Manville	Faserweg 1	Wertheim am Main	Germany	97877	X
Ponca Dialysis, LLC	17.95%	DaVita Healthcare	2000 16th St	Denver	CO	80202	X
Ponderosa Dialysis, LLC	17.95%	DaVita Healthcare	3290 Gulf Fwy S, Suite H	Dickinson	TX	77539	X
Ponderosa Wholesale (d/b/a for L&W Supply Corporation)	29.95%	USG	340 Wolverine Way	Sparks	NV	89431	X
Port Terminal Railroad Association		BNSF Railway	8934 Manchester	Houston	TX	77012	X
Portage Avenue Paints Inc.	99.80%	Benjamin Moore	1110 Portage Avenue	Winnipeg	MB	R3G 0S7	X
Portland Gold Corp. d/b/a Maine Paint Service		Benjamin Moore	517 Warren Avenue	Portland	ME	04102	X
Portland Terminal Railroad Company	40%	BNSF Railway	3500 Northwest Yeon Avenue	Portland	OR	97210	X
Portola Dialysis, LLC	17.95%	DaVita Healthcare	323 N Michigan Avenue	Saginaw	MI	48602	X
Portugal Hexatool, S.A.		TaeguTec	Rua Casal Galego, No. 40.44.2430	Marinha Grande	Portugal		X
Powerex Inc.	100%	Scott Fetzer	150 Production Drive	Harrison	OH	45030	X
Powerex-Iwata Air Technology, Inc.	67%	Scott Fetzer	150 Production Drive	Harrison	OH	45030	X
Powerton Dialysis, LLC	17.95%	DaVita Healthcare	2900 Carskaddon Avenue	Toledo	OH	43606	X
Powhatan Today	100%	BH Media	3229 Anderson Hwy	Powhatan	VA	23139	X
PPK Ltd.	26.86%	Kraft Heinz	Arsenalnaya Str 1 Bldg 2	St. Petersburg	Russia	195009	X
Pragati Development Consulting Services Ltd.	12.07%	Moody's	1105, 11th Floor, Kailash Building 26, Kasturba Ga	New Delhi	Delhi, India	110001	X
Precision Brand Products, Inc.	100%	Berkshire Hathaway	3500 N. Wolf Road	Franklin Park	IL	60131	X
Precision Steel Warehouse, Inc.	100%	Berkshire Hathaway	3500 N. Wolf Road	Franklin Park	IL	60131	X
Precision Steel Warehouse, Inc., Charlotte Service Center	100%	Berkshire Hathaway	2027 Gateway Blvd.	Charlotte	NC	28208-2741	X
Preco Sp. z.o.o.	100%	Iscar	Gospodarcza 14	Katowice	Poland	40-432	X
Premier Sulphur Services LLC	49%	Marmon		Ras Laffan	Qatar		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Press of Atlantic City	100%	BH Media	1000 W. Washington Avenue	Pleasantville	NJ	08232	X
Prestigious Ventures Limited		NetJets	21 Saint Thomas Street	Bristol	England	BS1 6JS	X
Priday Dialysis, LLC	17.95%	DaVita Healthcare	725 Ridder Park Drive, Ste 50	San Jose	CA	95131	X
Prime Time Manufacturing (a division of Forest River, Inc.)	100%	Forest River, Inc.	55470 CR 1	Elkhart	IN	46515	X
Prime Time Mfg. (d/b/a for Richline Group)		Richline Group	185 Jefferson Blvd.	Warwick	RI	02888	X
Prince Castle Inc. (Ningbo)	100%	Marmon		Ningbo	Zhejiang, China		X
Prince Castle Kitchen Equipment (Shanghai) Co., Ltd.	100%	Marmon	Bldg 1 No 889 Kungang Rd Xiao Kunshan	Town Songjiang	Shanghai, China	201600	X
Prince Castle LLC	100%	Marmon	355 E. Kehoe Boulevard	Carol Stream	IL	60188	X
Prince Castle Trading (Shanghai) Co., Ltd.	100%	Marmon	Bldg 1 No 889 Kungang Rd Xiao Kunshan	Town Songjiang	Shanghai, China	201600	X
Princeton Advertising & Marketing Group, Inc.	100%	Medical Protective	746 Alexander Road	Princeton	NJ	08540-6305	X
Princeton Insurance Company	100%	Medical Protective	746 Alexander Road	Princeton	NJ	08540-6305	X
Princeton Risk Protection, Inc.	100%	Medical Protective	746 Alexander Road	Princeton	NJ	08540-6305	X
Prineville Dialysis, LLC	17.95%	DaVita Healthcare	3361 Route 611, Suite 1	Bartonsville	PA	18321	X
Prings Dialysis, LLC	17.95%	DaVita Healthcare	6925 Shore Ter	Indianapolis	IN	46254	X
Priority One Financial Services, Inc.	100%	Forest River, Inc.	742 2nd Avenue South	St. Petersburg	FL	33701	X
Pro Installations, Inc.	100%	Shaw	P.O. Drawer 2128	Dalton	GA	30722-2128	X
Procor Alberta Inc.	100%	Marmon	734 7th Ave. SW Suite 1200	Calgary	Alberta, Canada	T2P 3	X
Procor Leasing Inc.		Marmon	2001 Speers Road	Oakville	Ontario, Canada	L6J 5E1	X
Procor Limited	100%	Marmon	2001 Speers Road	Oakville	Ontario, Canada	L6J 5E1	X
Procor Limited (Survivor 1/3/08 Amalgamation)		Marmon					X
Procoves GMBH	100%	Marmon	Lebacher Str. 4	Saarbrücken	Germany	66113	X
Procoves SAS	100%	Marmon	PO Box 4669	Shrewbury	UK	SY1 9AU	X
Procrane Holdings, Inc.	100%	Marmon	2001 Speers Road	Oakville	Ontario, Canada	L6J 5E1	X
Procrane Inc.	100%	Marmon	2440 76th Ave. NW	Edmonton	Alberta, Canada	T6P 1J5	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Procrane Oceania Inc.	100%	Marmon	3200, 10180 - 101 Street	Edmonton	Alberta, Canada	T5J 3	X
Procrane Sales Inc.	100%	Marmon	2440 76th Ave. NW	Edmonton	Alberta, Canada	T6P 1J5	X
Productos San Jose S.de.R.L.C.V.	100%	Fruit of the Loom	Mirasoles No. 12	Bugambillas	Puebla, Mexico	72580	X
Professional Life Underwriting Solutions, Inc.		General Re Life	695 E. Main Street	Stamford	CT	06901	X
Progress Plus		BH Media	P.O. Box 9030	Charlottesville	VA	22906	X
Progressive Building Materials (d/b/a for L&W Supply Corporation)	29.95%	USG	1255 W. Michigan Avenue	Ypsilanti	MI	48197	X
ProMark Brands, Inc.	26.86%	Kraft Heinz	2541 North Stokesberry Place, Suite 100	Meridian	ID	83646	X
Promesa Health, Inc.	100%	Applied Underwriters	10815 Old Mill Rd.	Omaha	NE	68154	X
Pro-Share Limited	26.86%	Kraft Heinz	South Building, Hayes Park	Hayes, Middlesex	England	UB4 8AL	X
ProSpectra Contract Flooring	100%	Shaw	8320 Camino Santa Fe, Suite 1	San Diego	CA	92121	X
PT American Express Indonesia	14.65%	American Express	Said Blok X5, Kav 2-3	Jakarta Selatan	Indonesia	12950	X
PT Moody's Indonesia	12.07%	Moody's	22nd Floor, Jalan Mega Kuningan, Lot # 5.1	Jakarta	Indonesia	12950	X
PT Tungaloy Indonesia	51%	Iscar	Kompleks Grand Wisata Block AA-10 No. 3-5 Cibitung	Bekasi	Indonesia	17510	X
PT. TaeguTec Indonesia	51%	Iscar	Ruko Plaza Mentang, Blok B. No 23 Lippo Cikarang	Bekasi	Indonesia	17550	X
PTC-220, LLC	14.285%	BNSF Railway	1200 Peachtree Street	Atlanta	GA	30309	X
Pudliszki Sp. Z.O.O.	26.86%	Kraft Heinz	ul. Fabryczna 7, Pudliszki	Krobia	Poland	63-840	X
PW Business Magazine	100%	BH Media	9009 Church Street	Manassas	VA	20110	X
PW Pulse	100%	BH Media	Prince William County		VA		X
QDI Acquisition Inc. (d/b/a for International Dairy Queen Inc.)	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439-0286	X
Qingdao TBS Digatron Ltd	50%	MiTek	No. 33 Xianshandong Road, Chengyang	Qingdao, Shandong	China	266108	X
Quality Dialysis Care Sdn. Bhd.	17.95%	DaVita Healthcare	No. 63, Jalan Wangsa Delima 5, Seksyen 5, Wangsa Maju	Kuala Lumpur	Wilayah Persekutuan	53300	X
Quikut (Scott Fetzer Company d/b/a Quikut)	100%	Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X
R. C. Willey Home Furnishings	100%	R. C. Willey	2301 S. 300 West	Salt Lake City	UT	84115	X
R.A.Z. Properties, Inc.	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Rabun Apparel, Inc.	100%	Fruit of the Loom	398 Kelly's Creek Road	Rabun Gap	GA	30537	X
Racsi S.A.		Iscar	Calle 50 NO.73-13	Bogata D.C.	Columbia		X
Racsi Tools de Colombia		Iscar	Calle 50 No. 73-13	Bogata D.C.	Columbia		X
Radiant-RSCC Specialty Cable Private Limited	51%	Marmon	Plot No. 19, APIIC Industrial Park	Muppireddypalli Village	Toopran Mandel		X
Radius Insurance Company	11.4%	Phillips 66			Cayman Islands		X
Radnor Specialty Insurance Company	100%	United States Liability Insurance Company	1170 Devon Park Dr.	Wayne	PA	19087	X
Rail Car Associates Limited Partnership	100%	Marmon	33 West Monroe Street	Chicago	IL	60603	X
Railmarketplace.com, Inc.	18.85%	BNSF Railway	150 N Michigan, Suite 2800	Chicago	IL	60601	X
Railserve Inc.	100%	Marmon	54 West Beaver Creek Road, Unit 2	Richmond Hill	Ontario, Canada	L4B 1G5	X
Railserve, Inc.	100%	Marmon	1691 Phoenix Blvd, Suite 110	Atlanta	GA	30349	X
Railsplitter Holdings Corporation	100%	General Re	80 S Main St	Hanover	NH	03755	X
Rainbow State Paint & Decorating Inc.		Benjamin Moore	1353-1375 Dillingham Blvd.	Honolulu	HI	96817	X
Rainer Dialysis, LLC	17.95%	DaVita Healthcare	3740 S Jefferson Avenue	St. Louis	MO	63118	X
RAK/LifeCo Reiseunternehmen GmbH	14.65%	American Express	Theodor-Heuss-Allee 112	Frankfurt	Germany	60486	X
Ralston Recorder (<i>d/b/a for Suburban Newspapers, Inc.</i>)	100%	BH Media	604 Fort Crook Rd North	Bellevue	NE	68005	X
Rancho Dialysis, LLC	17.95%	DaVita Healthcare	899 E Iron Avenue	Dover	OH	44622	X
Rayburn Dialysis, LLC	17.95%	DaVita Healthcare	6005 Eastridge Road	Odessa	TX	79762	X
Ray-Q (Turkey) Ltd.	100%	TTI, Inc.	Huzur Mh.Cevizlidere Cd. Gokkusagi Apt.No.89 D.3	Cankaya-Ankara	Turkey	06520	X
Ray-Q Interconnection Technologies India Private Ltd.	100%	TTI, Inc.	Industrial Estate, Mahadevapura Post, Whitefield Road	Bangalore	India	560048	X
Ray-Q Ltd.	100%	TTI, Inc.	Gilboa St. P.O.B. 46 Lod	Airport City	Israel	70100	X
Ray-Q, LLC	100%	TTI, Inc.	63 Hollybrook Rd.	Paramus	NJ	07652	X
RayRail, LLC		BNSF Railway	255 Pleasant Street	Berlin	NH	03570	X
RCJD Motors, LLC	81%	BH Auto	1321 N Central Expressway	Richardson	TX	75080	X
RCP Investment, Inc.	100%	Marmon	100 Cannon Street	London	England	EC4N 6EU	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Red Willow Dialysis, LLC	17.95%	DaVita Healthcare	720 Johnsville Boulevard	Warminster	PA	18974	X
Redcliff Dialysis, LLC	17.95%	DaVita Healthcare	25 E Willow Street, Suite 2	Millburn	NJ	07041	X
Reductores De Mexico, S.A.	49%	Marmon	Blvd. Diaz Ordaz 125-F	Los Trevino, Santa Catarina	Mexico	66350	X
Redwood Fire and Casualty Insurance Company	100%	Berkshire Hathaway Homestate Co.	9290 W Dodge Rd., Suite 300	Omaha	NE	68114	X
Redwood Partners Limited		Clayton Homes	P.O. Box 4098	Maryville	TN	37802	X
Reef Dialysis, LLC	17.95%	DaVita Healthcare	812 Ceighton Road	Pensacola	FL	32504	X
Refuge Dialysis, LLC	17.95%	DaVita Healthcare	8130 Evergreen Way	Everett	WA	98203	X
Regina's House of Colour Inc.	72.5%	Benjamin Moore	2555 East Quance Street	Regina	SK	S4V 2X7	X
Reinsurance Group Managers Limited		National Indemnity	Bruton Court, Bruton Way	Gloucester	Gloucestershire , U.K.	GL1 1DA	X
Reinsurance Underwriting Services Limited		General Re	Corn Exchange, 55 Mark Lane	London	England	EC3R 7NE	X
Reliable Automotive, LLC	81%	BH Auto	3521 E. Sunshine St	Springfield	MO	65809	X
Reliable BMW (<i>d/b/a for Reliable Automotive, LLC</i>)	81%	BH Auto	3521 E. Sunshine St	Springfield	MO	65809	X
Reliable Chevrolet (MO), LLC	81%	BH Auto	3655 S. Campbell	Springfield	MO	65807	X
Reliable Chevrolet (NM), LLC	93%	BH Auto	9901 Coors Blvd.	Albuquerque	NM	87114	X
Reliable Chevrolet II (TX), LLC <i>d/b/a Reliable Chevrolet</i>	81%	BH Auto	800 N. Central Expressway	Richardson	TX	75083	X
Reliable Hyundai		BH Auto	438 S Ingram Mills Road	Springfield	MO	65802	X
Reliable Imports & Motorhomes, LLC	81%	BH Auto	438 S Ingram Mills Road	Springfield	MO	65802	X
Reliable Lexus (<i>d/b/a for Reliable Automotive, LLC</i>)	81%	BH Auto	3521 E Sunshine St	Springfield	MO	65809	X
Reliable Mazda		BH Auto	438 S. Ingram Mills Road	Springfield	MO	65802	X
Reliable Motors (AU), LLC	81%	BH Auto	3500 E. Sunshine St.	Springfield	MO	65809	X
Reliable Nissan (<i>d/b/a for Reliable, LLC</i>)	93%	BH Auto	9951 Coors Blvd.	Albuquerque	NM	87114	X
Reliable Scion		BH Auto	3521 E. Sunshine St	Springfield	MO	65809	X
Reliable Subaru		BH Auto	438 S. Ingram Mills Road	Springfield	MO	65802	X
Reliable Toyota (<i>d/b/a for Reliable Automotive, LLC</i>)	81%	BH Auto	3521 E. Sunshine St	Springfield	MO	65809	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Reliable, LLC	93%	BH Auto	9951 Coors Blvd.	Albuquerque	NM	87114	X
Reliance-Hospital Ground Associates, Limited Liability Limited Partnership	99.99%	National Indemnity					X
Relocation Central Corporation		Wesco	11250 Waples Mill Road	Fairfax	VA	22030	X
Renal Clinic of Houston, LLC	17.95%	DaVita Healthcare	2242 Championship Drive	Sealy	TX	77474	X
Renal Life Link, Inc.	17.95%	DaVita Healthcare	45597 Highway 27	Davenport	FL	33897	X
Renal Treatment Centers, Inc.	17.95%	DaVita Healthcare	601 Hawaii Street	El Segundo	CA	90245	X
Renal Treatment Centers-California, Inc.	17.95%	DaVita Healthcare	804 11th Street	Lakeport	CA	95453	X
Renal Treatment Centers-Hawaii, Inc.	17.95%	DaVita Healthcare	21250 Hawthorne Blvd Ste 800	Torrance	CA	90503	X
Renal Treatment Centers-Illinois, Inc.	17.95%	DaVita Healthcare	405 Highway 150 North	West Union	IA	52175	X
Renal Treatment Centers-Mid-Atlantic, Inc.	17.95%	DaVita Healthcare	349 Geneva Road	Buena Vista	GA	31803	X
Renal Treatment Centers-Northeast, Inc.	17.95%	DaVita Healthcare	1172 South Broad Street	Philadelphia	PA	19146	X
Renal Treatment Centers-Southeast, L.P.	17.95%	DaVita Healthcare	1300 North Virginia Street	Port Lavaca	TX	77979	X
Renal Treatment Centers-West, Inc.	17.95%	DaVita Healthcare	202 E Blue Starr Dr	Claremore	OK	74017	X
Renee's Gourmet Foods Inc.	26.86%	Kraft Heinz	90 Shepard Ave. Suite 400	Toronto	Ontario, Canada	M9L 2V4	X
Rentco Trailer Corporation	100%	XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	X
Repertoire International, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Resespecialisterna Syd AB	14.65%	American Express	Randersg. 7	Helsingborg Skåne län	Sweden	SE-251 11	X
Resolute Management Inc.	100%	National Indemnity	3024 Harney Street	Omaha	NE	68131	X
Resolute Management Limited	100%	National Indemnity	Fourth Floor Birchin Court, 20 Birchin Lane	London	UK	EC3V 9DU	X
Resolute Management Services Limited	100%	National Indemnity	Exchequer Ct, 33 St Mary Axe	London	England	EC3A 8LL	X
Rexport, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Rey-Mex Bra, S.A. de C.V.		Fruit of the Loom	Carr. Matamoros Km. 85 Fracc.	Reynosa	Mexico		X
Richardson Automotive II, LLC	81%	BH Auto	1221 N. Central Expressway	Richardson	TX	75080	X
Richardson Chrysler Jeep Dodge Ram (d/b/a for RCJD Motors, LLC)	81%	BH Auto	1321 N Central Expressway	Richardson	TX	75080	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Richlands News Press	100%	BH Media	1945 Second Street	Richlands	VA	24641	X
Richline (Hong Kong) Ltd.	100%	Richline Group			Hong Kong		X
Richline Group Canada Ltd.	100%	Richline Group	75 Torbarrie Road	Toronto	Canada	M3L 1G5	X
Richline Group, Inc.	100%	Richline Group	115 South Macquesten Pky	Mt. Vernon	NY	10550	X
Richline Italy, srl	100%	Richline Group	San Zeno 2/A	Arezzo	Italy	51200	X
Richline Jewelry (Thailand) Ltd.	100%	Richline Group			Thailand		X
Richline SA (Pty) Ltd.	100%	Richline Group	130 President Street	Johannesburg	Gauteng South Africa	2001	X
Richmond Times-Dispatch	100%	BH Media	300 E. Franklin Street	Richmond	VA	23219	X
Richmond.com	100%	BH Media	300 E. Franklin Street	Richmond	VA	23219	X
Rickwood Dialysis, LLC	17.95%	DaVita Healthcare	6952 Industrial Pkwy	Rosenberg	TX	77471	X
Riddle Dialysis, LLC	17.95%	DaVita Healthcare	100 Granite Drive, Suite 106	Media	PA	19063	X
Riley Equipment, Inc.		CTB International	2205 S Old Decker Rd	Vincennes	IN	47591	X
Rimec Gmbh	100%	TTI, Inc.	Hans-Bornkessel-Straße 45	Fürth	Germany	90763	X
RINC Ltd.	26.86%	Kraft Heinz	4 Weizmann	Tel Aviv-Jaffa	Israel		X
Ringwalt & Liesche Co.	100%	National Indemnity	4016 Farnam Street	Omaha	NE	68131	X
RINTEL Properties, Inc.		Russell Corporation	755 Lee Street	Alexander City	AL	36010	X
Rio Dialysis, LLC	17.95%	DaVita Healthcare	3461 W Broadway Avenue	Robbinsdale	MN	55422	X
Rio Grande Jewelers Supply		Richline Group	7500 Bluewater Rd NW	Albuquerque	NM	87121	X
Rio Grande, El Paso and Santa Fe Railroad Company		BNSF Railway					X
Rio Grande, Inc.	100%	Richline Group	7500 Bluewater Road NW	Albuquerque	NM	87121	X
Ripley Dialysis, LLC	17.95%	DaVita Healthcare	854 Highway 51 S	Ripley	TN	38063	X
Riser Road Partners, LP	99.99%	National Indemnity	149 Concourse Drive	Pearl	MS	39208	X
Rita Ranch Dialysis, LLC	17.95%	DaVita Healthcare	7355 S Houghton Rd, Suite 101	Tucson	AZ	85747	X
Ritter AAL Senior, LP	99.99%	Affordable Housing		Indianapolis	IN		X

BERKSHIRE HATHAWAY INC. (10% and greater)

River City Building Materials (<i>d/b/a for L&W Supply Corporation</i>)	29.95%	USG	825 Bond Street	Little Rock	AR	72202	X
River Valley Dialysis, LLC	17.95%	DaVita Healthcare	6929 Silverton Avenue	Cincinnati	OH	45236	X
Riverside Paint & Decorating, Inc.		Benjamin Moore	2100 Riverside Parkway, Suite 109A	Lawrenceville	GA	30243	X
Riverview Land, LLC	100%	BH Media	45 W 200 N, P.O. Box 116	Morgan	UT	84050	X
RKL Building Specialties Co., Inc.	100%	MiTek	15-30 131st Street	College Point	NY	11356	X
RKL Building Specialties Co., Inc.	100%	MiTek	15-30 131st Street	College Point	NY	11356	X
RLA Mfg. SRL	100%	Fruit of the Loom			Honduras		X
RLS LLC	100%	Marmon					X
RMS Lifeline, Inc.	17.95%	DaVita Healthcare	Three Hawthorn Parkway, Suite 410	Vernon Hills	IL	60061	X
RNA-DaVita Dialysis, LLC	17.95%	DaVita Healthcare	4155 Kelnor Drive	Grove City	OH	43123	X
Robbins Engineering, Inc.	100%	MiTek	6904 Parke East Boulevard	Tampa	FL	33610	X
Robertson Inc.	100%	Marmon	97 Bronte Street	Milton	Ontario, Canada	L9T 2N8	X
Robertson Inc. (Jiaxing)	100%	Marmon	128 Jinjia Ave., Jiashan	Zhejiang	China	314100	X
Robinson Dialysis, LLC	17.95%	DaVita Healthcare	1215 North Allen Street	Robinson	IL	62454	X
Rochester Dialysis Center, LLC	17.95%	DaVita Healthcare	1886 West Auburn Road	Rochester Hills	MI	48309	X
Rockbestos-Surprenant Cable Corp.		Marmon	20 Bradley Park Road	East Granby	CT	06026	X
Rockingham Now	100%	BH Media	1921 Vance Street	Reidsville	NC	27320	X
Rocky Mountain Dialysis Services, LLC	17.95%	DaVita Healthcare	482 South Chambers Road	Denver	CO	80017	X
Rocky Mountain International Insurance Ltd.	100%	Johns Manville	Belvedere Building, Pitts Bay Road, P.O. Box HM 660	Hamilton HM CX	Bermuda		X
Roomservice by CORT		CORT	28 Barwell Business Park, Leatherhead Road	Chessington	Surrey, UK	KT9 2NY	X
Roose Dialysis, LLC	17.95%	DaVita Healthcare	1523 E March Lane, Ste 200	Stockton	CA	95210	X
Rose City Building Specialties (<i>d/b/a for L&W Supply Corporation</i>)	29.95%	USG	7220 SW Bonita Rd	Tigard	OR	97224	X
Roselle Building Materials (<i>d/b/a for L&W Supply Corporation</i>)	29.95%	USG	303 W. Irving Park Road	Roselle	IL	60172	X
Rosenbluth (Germany) GmbH	14.65%	American Express	Mainzer Landstr 47	Frankfurt	Germany	60329	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Rosenbluth France Holdings, S.A.R.L.	14.65%	American Express			France		X
Rosenbluth Holding Company	14.65%	American Express		Moscow	Russia		X
Rosenbluth International (Israel) Ltd.	14.65%	American Express			Israel		X
Rosenbluth International (Russia) Ltd.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Rosenbluth International GmbH	14.65%	American Express	Mainzer Landstr. 47	Frankfurt	Germany	DE-60329	X
Rosenbluth International Limited	14.65%	American Express	Standard House, 16-22 Epworth Street	London	England	EC2A 4DN	X
Rosenbluth International Reisebur GmbH Austria	14.65%	American Express			Austria		X
Rosenbluth International Travel, Ltd.	14.65%	American Express	2401 Walnut Street	Philadelphia	PA	19103-4390	X
Rosenbluth International, SRL de C.V.	14.65%	American Express					X
Rosper Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Ross Clark Circle Dialysis, LLC	17.95%	DaVita Healthcare	1450 Ross Clark Circle	Dothan	AL	36301	X
Round Lake Beach LP	99.99%	National Indemnity			IL		X
Rousche Dialysis, LLC	17.95%	DaVita Healthcare	1420 Trinity Place	Mishawaka	IN	46545	X
Routt Dialysis, LLC	17.95%	DaVita Healthcare	4860 Vista Blvd, Suite 100	Sparks	NV	89436	X
Roxell BVBA	100%	CTB International	Industrielaan 13	Maidegem	Belgium	9990	X
Roxell USA, Inc.	100%	CTB International	720 Industrial Park Road	Anderson	MO	64831	X
Royal Cargo Lines, Inc.	100%	Burlington Northern	612 E Dallas Rd Ste 400	Grapevine	TX	76051-4199	X
Royale Dialysis, LLC	17.95%	DaVita Healthcare	200 Cobb Parkway North	Marietta	GA	30062	X
RSCC (Singapore) PTE Ltd.	100%	Marmon		Singapore	Singapore		X
RSCC Aerospace & Defense (d/b/a for RSCC Wire & Cable LLC)	100%	Marmon	680 Hayward St.	Manchester	NH	03103	X
RSCC Wire & Cable LLC	100%	Marmon	20 Bradley Park Road	East Granby	CT	06026	X
Running with Heels, Inc.	100%	HH Brown	124 W. Putnam Avenue	Greenwich	CT	06830	X
Ruservicious S. de R.L.	100%	Fruit of the Loom			Honduras		X
Rush Air Inc.	100%	MiTek	1701 Sinclair	St. Clair	MI	48079	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Rusk Dialysis, LLC	17.95%	DaVita Healthcare	1059 SE 82nd Street	Oklahoma City	OK	73149	X
Russco Holdings, Ltd.	100%	Fruit of the Loom			Grand Cayman		X
Russell Artwear (a division of Russell Corporation)	100%	Fruit of the Loom	3330 Cumberland Blvd. Ste 1000	Atlanta	GA	30339	X
Russell Asset Management, Inc.		Fruit of the Loom	755 Lee Street	Alexander City	AL	36010	X
Russell Athletic Corporation	100%	Fruit of the Loom	3330 Cumberland Blvd., Ste 700	Atlanta	GA	30339	X
Russell Atlanta Management, Inc.		Fruit of the Loom					X
Russell Brands, LLC	100%	Fruit of the Loom	1 Fruit of the Loom Dr	Bowling Green	KY	42103	X
Russell Colombia Ltda	100%	Fruit of the Loom		Bogota	Colombia		X
Russell Co-Op, LLC		Fruit of the Loom			Guam		X
Russell Corp. Australia Pty Ltd.	100%	Fruit of the Loom	6 Dalmore Drive	Scoresby	Australia	VIC 3179	X
Russell Corp. Far East Limited	100%	Fruit of the Loom		Kowloon	Hong Kong		X
Russell Corporation		Fruit of the Loom	3330 Cumberland Blvd., Suite 800	Atlanta	GA	30339	X
Russell CZ s.r.o.		Fruit of the Loom	Business Park Košire, Jinonická 80	Prague	Czech Republic	158 00	X
Russell del Caribe, Inc.	100%	Fruit of the Loom			Puerto Rico		X
Russell Dialysis, LLC	17.95%	DaVita Healthcare	941 S Westgate Way	Wylie	TX	75098	X
Russell Financial Services, Inc.		Fruit of the Loom	300 Delaware Ave, 9th Fl, DE-5403	Wilmington	DE	19801	X
Russell Foreign Sales Ltd.	100%	Fruit of the Loom			Barbados		X
Russell France SARL		Fruit of the Loom	72-74 Rue du Rendez-vous	Paris	France	75012	X
Russell International (a division of Russell Corporation)	100%	Fruit of the Loom	3330 Cumberland Blvd., Suite 900	Atlanta	GA	30339	X
Russell Italy S.r.l.		Fruit of the Loom	via delle Fonti 6 B	Scandicci, Firenze	Italy	50018	X
Russell Mexico, S.A. de C.V.	100%	Fruit of the Loom	Avenida Juarez #40, Colonia Ex-Hacienda de Santa Monica	Tlalnepantla	Mexico	54050	X
Russell Servicing Company, Inc.		Fruit of the Loom	755 Lee Street	Alexander City	AL	36010	X
Russell Yarn, LLC		Fruit of the Loom	755 Lee Street	Alexander City	AL	36010	X
RVWVT Motors, LLC	96%	BH Auto	1050 Lee Road	Orlando	FL	32810	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Rye Dialysis, LLC	17.95%	DaVita Healthcare	377 Boxwood Lane	Pearisburg	VA	24134	X
S and L Specialty Polymers Co., Ltd.	50%	Lubrizol		Bangkok	Thailand		X
S.C. TaeguTec Tools S.R.L.	100%	Iscar	Splaiul Unirii, nr. 4, Bl. B3, 5th Floor, Office 5.1, District 4	Bucharest	Romania	040031	X
S.S.B.-Logistics BVBA	100%	Lubrizol	48 Nijverheidsstraat	Westerlo	Belgium	2260	X
S.T.S. Srl	51%	Iscar	Via Formaleoni, 20 - 29027	Podenzano (PC)	Italy		X
Saddleback Dialysis, LLC	17.95%	DaVita Healthcare	2377 Highway 196 W	Hinesville	GA	31313	X
Safal MiTek Ltd.	50%	MiTek	P.O.Box 244	Athi River	Kenya	00204	X
Safe Driver Motor Club, Inc.		GEICO	One GEICO Plaza	Washington	DC	20076	X
SafeHarbor Dialysis, LLC	17.95%	DaVita Healthcare	1701 E 9th Avenue	Ybor City	FL	33605	X
Sager Electrical Supply Company Inc.	100%	TTI, Inc.	60 Research Road	Hingham	MA	02043	X
Sager Electronics (d/b/a for Sager Electrical Supply Company Inc.)	100%	TTI, Inc.	60 Research Road	Hingham	MA	02043	X
Sahara Dialysis, LLC	17.95%	DaVita Healthcare	133 Cheltenham Ave	Cheltenham	PA	19012	X
SAKDC-DaVita Dialysis Partners, L.P.	17.95%	DaVita Healthcare	2391 NE Loop 410	San Antonio	TX	78217	X
Salado Sales, Inc.	100%	McLane	6201 NW H.K. Dodgen Loop	Temple	TX	76504	X
Salt Lake City Retail & Convenience, LLC	11.4%	Phillips 66	3010 Briarpark Drive	Houston	TX	77042	X
Salt Lake Terminal Company	11.4%	Phillips 66					X
San Jacinto Rail Limited	49%	BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
San Marcos Dialysis, LLC	17.95%	DaVita Healthcare	2135 Montiel Road	San Marcos	CA	92069	X
Sanctuary Paint & Décor Inc.	79.2%	Benjamin Moore	420 Hazeldean Road, Unit 3	Kanata	ON	K2L 4B2	X
Sand Springs Leader	100%	BH Media	303 N. McKinley	Sand Springs	OK	74063	X
Sandefo Productions SNC		Fruit of the Loom	Rue Denis Papin 79000 Niort Z	Saint Liguaire	France		X
Sandell Construction Solutions (d/b/a for Sandell Manufacturing Co, Inc.)		MiTek	310 Wayto Road	Schenectady	NY	12303	X
Sandell Industries, Inc.		MiTek	310 Wayto Road	Schenectady	NY	12303	X
Sandell Manufacturing Co., Inc.		MiTek	310 Wayto Road	Schenectady	NY	12303	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Sandlin Dialysis, LLC	17.95%	DaVita Healthcare	110 Heritage Court	Greeneville	TN	37743	X
Sandpaper	100%	BH Media	507 South Shore Rd.	Marmora	NJ	08223	X
Sands Dialysis, LLC	17.95%	DaVita Healthcare	998 NW 9th Court	Boca Raton	FL	33486	X
Sandusky Dialysis, LLC	17.95%	DaVita Healthcare	795 Bardshar Road	Sandusky	OH	44870	X
Sandy Paint & Decorating Inc.		Benjamin Moore	2291 East Murray Holladay Rd	Sandy	UT	84117	X
Santa Ana Apparel, Limitada, de C.V.	100%	Fruit of the Loom	Edificio 7 Sur, Exportsalva Free Zone, KM 24 Carretera A	Santa Ana Lourdes La Libertad	El Salvador		X
Santa Fe Pacific Insurance Company	100%	BNSF Railway	76 St. Paul Street, Suite 500	Burlington	VT	05401-4477	X
Santa Fe Pacific Pipeline Holdings, Inc.		BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
Santa Fe Pacific Pipelines, Inc.	100%	BNSF Railway	PO Box 961101	Fort Worth	TX	76161	X
Santa Fe Pacific Railroad Company	100%	BNSF Railway	2650 Lou Menk Drive	Fort Worth	TX	76131-2830	X
Santa Fe Springs Dialysis, LLC	17.95%	DaVita Healthcare	11147 Washington Blvd	Whittier	CA	90606	X
Santa Fe Terminal Services, Inc.		BNSF Railway	12330 Northwest Highway	Dallas	TX	75228	X
Santiam Dialysis, LLC	17.95%	DaVita Healthcare	5923 Westheimer Road	Houston	TX	77057	X
Sapelo Dialysis, LLC	17.95%	DaVita Healthcare	2551 Merced Street	San Leandro	CA	94577	X
Sardelli (d/b/a for Richline Group, Inc.)		Richline Group	1385 Broadway	New York	NY	10018	X
Sceptre Nominees Limited	14.65%	American Express	60 Buckingham Palace Rd.	London	UK	SW1W ORR	X
Scharpf's Building Specialties (d/b/a for L&W Supply Corporation)	29.95%	USG	P.O. Box 887	Eugene	Oregon	97440	X
Schenker Rhenus Reisen Verwaltungsgesellschaft GmbH	14.65%	American Express	Theodor-Heuss-Allee 12	Frankfurt	Germany	60486	X
SCHUBERT TACKE Tooling GmbH	60%	Iscar	Berlichingenstraße 1	Schwabach	Bavaria, Germany	91126	X
Schuller GmbH	100%	Johns Manville	Faserweg 1	Wertheim, Baden-Württemberg	Germany	DE-97877	X
Schuller Polaska Sp. z.o.o.		Johns Manville	Silesian Insurgents 54	Lubliniec	Poland	42-700	X
Sci Ifreco	100%	Iscar	Rue Guynemer	Guyancourt	France	78820	X
Scion of Dallas		BH Auto	2610 Forest Lane	Dallas	TX	75234	X
Scion of Deerfield Beach		Berkshire Hathaway Automotive	1441 S. Federal Highway	Deerfield Beach	FL	33441	X

BERKSHIRE HATHAWAY INC. (10% and greater)

SCNow.com		BH Media	310 S. Dargan Street	Florence	SC	29501	X
Scot Laboratories		Scott Fetzer	16841 Park Circle Drive	Chagrin Falls	OH	44023	X
Scott Fetzer Company	100%	Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X
Scott Fetzer Financial Group, Inc.	100%	Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X
Scott Fetzer South Africa (Pty) Ltd.	100%	Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X
ScottCare Corporation	100%	Scott Fetzer	4791 W. 150th Street	Cleveland	OH	44135	X
Scottsbluff Publishing Company, Inc.		BH Media	1405 Broadway	Scottsbluff	NE	69361	X
Seacoast Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	4961 River Road	Jefferson	LA	70121	X
Seagas Pipeline Company	11.4%	Phillips 66	1250 SE Adams Boulevard	Bartlesville	OK	74003	X
Seasons Dialysis, LLC	17.95%	DaVita Healthcare	720 Cog Circle	Crystal Lake	IL	60014	X
Seattle Paint Supply Inc.		Benjamin Moore	2933 Fourth Avenue South	Seattle	WA	98134	X
Seaworthy Insurance Company	100%	GEICO	147 Old Solomon's Island Road, #513	Annapolis	MD	21401	X
See's Candies, Inc.	100%	See's Candy	210 El Camino Real	South San Francisco	CA	94080	X
See's Candy Shops, Inc.	100%	See's Candy	20600 South Alameda Street	Carson	CA	90810	X
Seminole Dialysis, LLC	17.95%	DaVita Healthcare	76 Highland Pavilion Ct	Hiram	GA	30141	X
Seneca Dialysis, LLC	17.95%	DaVita Healthcare	65 Saint Francis Avenue	Tiffin	OH	44883	X
Senelar Larson-Juhl S.A.	100%	Larson Juhl	232, Rue de Vieux, Berquin	59190 Hazebrouk	France		X
Serenity Park Associates, LP	99.99%	National Indemnity	1380 Brittany Way	Prosper	TX	75078	X
Serramonte Ford (d/b/a for BWNVT Motors, LLC)	93%	Berkshire Hathaway Automotive	999 Serramonte Blvd.	Colma	CA	94014	X
Serve Virtual Enterprises, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Services Maritime Albacor Inc.		BNSF Railway	620 Bord du Lac, Suite 305	Dorval (Montreal)	Quebec, Canada	H9S 2B6	X
Servicios De Corte Y Confeccion, S.A. de C.V.	100%	Garan	Santa Ana, Edif. 14 Oriente y Poniente Lourdes	Colon	La Libertad El Salvador, C.A.		X
Servicios De Manufactura S.A. de CV & Producciones Manufactureras, S.A. de CV	100%	Garan	Export Salva Free Zone, km 24 Carretera Santa Ana, Edif. 11 y 15 Lourdes	Colon	La Libertad El Salvador, C.A.		X
Servicios Industriales Diversos, S.A. de C.V.	100%	Garan	Export Salva Free Zone, km 24 Carretera Santa Ana, Edif. 6 Norte y Sur Lourdes	Colon	La Libertad El Salvador, C.A.		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Servicios Profesionales De Manufactura, S.A. de C.V.	100%	Garan	Zona Franca "10", Modulo 2 Final Barrio Santa Cruz	Chalchuapa Santa Ana	El Salvador, C.A.		X
Servicios Russell, S.A. de C.V.	100%	Fruit of the Loom	Atequisquiapan 2 Kilom 1 5	San Juan of the River	Queretaro Mexico	76807	X
Seven Seas Foods, Inc.	26.86%	Kraft Heinz	260 Madison Ave #205	New York	NY	10016	X
Seventeenth Street Realty, Inc.	100%	Johns Manville	717 17th Street	Denver	CO	80202	X
Sewickley LLC	26.86%	Kraft Heinz	340 North Street	Greenwich	CT	06830	X
SFP Pipeline Holdings, Inc.	100%	BNSF Railway	2650 Lou Menk Drive, 2nd Floor	Fort Worth	TX	76131	X
SFPP, LP	50%	BNSF Railway	1100 Town and Country Road	Orange	CA	92868	X
SFVT Development, Inc.	100%	BH Auto	1550 E. Missouri Ave Ste 300	Phoenix	AZ	85014	X
SFVT Investors, LLC	78%	BH Auto	1550 E. Missouri Ave Ste 300	Phoenix	AZ	85014	X
SFZ International	100%	Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X
SGG Lisco LLC	100%	Fruit of the Loom	425 Meadow Street, P.O. Box 901	Chicopee	MA	01021	X
SGG Patents LLC	100%	Fruit of the Loom	425 Meadow Street, P.O. Box 901	Chicopee	MA	01021	X
Shadow Dialysis, LLC	17.95%	DaVita Healthcare	6406 Tupelo Drive, Suite A	Citrus Heights	CA	95621	X
Shafir Productions Systems Ltd.	51%	Iscar	23 Atir Yeda Street	Kfar Saba	Israel	44100	X
Shale Ltd.	100%	Iscar					X
Shanghai Guofo LongFong Foods Company Limited	26.86%	Kraft Heinz		Shanghai	China		X
Shanghai Lubrizol International Trading Co., Ltd.	100%	Lubrizol	10F, Tower B, Beijing Renji Plaza, No. 101 Jingshun Road, Chaoyang District	Beijing	China	100102	X
Shanghai TTI Electronics Co., Ltd.	100%	TTI, Inc.	No 358 FuTe Road (North)	Shanghai	China	200131	X
Sharepeople Group Limited	14.65%	American Express	230 Blackfriars Rd, 4th Floor	London	UK	SE1 8NW	X
Sharpsburg Holdings Limited	26.86%	Kraft Heinz	Rue Guillaume Kroll 5	Luxembourg	Luxembourg	1882	X
Sharpsburg Holdings Limited (Luxembourg) SCS	26.86%	Kraft Heinz	Rue Guillaume Kroll 5	Luxembourg	Luxembourg	1882	X
Shaw Brasil Consultoria Em Pisos Ltda	100%	Shaw		Sao Paulo	Brazil		X
Shaw Carpet (China) Co. Ltd.	100%	Shaw		Nantong, Jiangsu	China		X
Shaw Contract Flooring Services, Inc.	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Shaw Contract Group Australia Pty Ltd.	100%	Shaw	U 13 3 Rocklea Drive	Port Melbourne	VIC, Australia	3207	X
Shaw Diversified Services, Inc.	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	X
Shaw Export, Inc.	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	
Shaw Floors India Private Ltd.	100%	Shaw	MIDC Marol, Andheri (East)	Mumbai	India	400093	X
Shaw Floors, Inc.	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	
Shaw Funding Company	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	
Shaw Industries Asia Pte. Ltd.	100%	Shaw	3791 Jalan Bukit Merah, Unit #10-15	Singapore	Singapore	159471	X
Shaw Industries Group Chile Limitada	100%	Shaw		Las Condes	Santiago		X
Shaw Industries Group, Inc.	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	X
Shaw Industries Hong Kong, Ltd.	100%	Shaw	22/F, Empire Land Commerical Centre, 81- 85 Lockhart Road	Wanchai	Hong Kong		X
Shaw Industries SARL	100%	Shaw		Luxembourg	Luxembourg		X
Shaw Industries, Inc.	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	X
Shaw International Services, Inc.	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	
Shaw Monomers, LLC	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	X
Shaw Retail Properties, Inc.	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	
Shaw Specialized Services, LLC	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	
Shaw Transport, Inc.	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	X
Shayano Dialysis, LLC	17.95%	DaVita Healthcare	15555 E 14th Street, Suite 520	San Leandro	CA	94578	X
Sherman Dialysis, LLC	17.95%	DaVita Healthcare	3291 N Buffalo Drive Building A, Suite 150	Las Vegas	NV	89129	X
Shim-Technology Co. Ltd.	70%	Iscar			Mongolia		
Shining Star Dialysis, Inc.	17.95%	DaVita Healthcare	500 State Route 35	Red Bank	NJ	07701	X
Shoals Dialysis, LLC	17.95%	DaVita Healthcare	101 Okatie Center Blvd S	Bluffton	SC	29909	X
Shore Measuring Systems (d/b/a for CTB, Inc.)	100%	CTB, Inc.	1112 Enterprise Dr.	Rantoul	IL	61866	X
Shore News Today	100%	BH Media	507 South Shore Rd.	Marmora	NJ	08223	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Shore Sales Company (d/b/a for CTB, Inc.)	100%	CTB, Inc.	611 N Higbee St.	Milford	IN	46542	X
Showcase Automotive LLC	93%	BH Auto	1550 E Missouri Ave Ste 300	Phoenix	AZ	85014	X
Showcase Honda (d/b/a for Showcase Motors, LLC)	78%	BH Auto	1333 E. Camelback Road	Phoenix	AZ	85014	X
Showcase Motors LLC	78%	BH Auto	1521 E. Camelback Road	Phoenix	AZ	85014	X
Shreveport CV Housing, LLC	99.99%	Affordable Housing		Shreveport	LA		X
SHX Flooring, Inc.	100%	Shaw	616 E. Walnut Avenue	Dalton	GA	30720	X
SHX Realty One, LLC	100%	Shaw	616 East Walnut Avenue	Dalton	GA	30721	X
SidePlate Systems Inc.	100%	MiTek	23332 Mill Creek Dr., Ste 205	Laguna Hills	CA	92653	X
Siena Dialysis Center, LLC	17.95%	DaVita Healthcare	2865 Sienna Heights Drive	Henderson	NV	89052	X
Sierra Building Materials (d/b/a for L&W Supply Corporation)	29.95%	USG	2636 N. Larkin Street	Fresno	CA	93727	X
Sierra Rose Dialysis Center, LLC	17.95%	DaVita Healthcare	2215-B Renaissance Dr.	Las Vegas	NV	89119	X
Silver King Refrigeration LLC	100%	Marmon	1600 Xenium Lane North	Minneapolis	MN	55441	X
Silver Moon Lodge LLLP	99.99%	National Indemnity			NM		X
Silverwood Dialysis, LLC	17.95%	DaVita Healthcare	1208 N Arlington Avenue	Indianapolis	IN	46219	X
Simeon Dialysis, LLC	17.95%	DaVita Healthcare	11 Getty Avenue	Patterson	NJ	07503	X
Sisu Axles Inc.	100%	Marmon	Autotehtaan tie 1	Hämeenlinna	Finland	FI-13250	X
Skagit Dialysis, LLC	17.95%	DaVita Healthcare	725 Ridder Park Drive, Ste 10	San Jose	CA	95131	X
Skandinaviska Jute AB	99.8%	Johns Manville	B123, 13 Hallands lan 80 Halmstad Kommun	Oskarstrom	Sweden	313 00	X
Skiatook Journal	100%	BH Media	500 W. Rogers	Skiatook	OK	74070	X
SLI Holding Limited	100%	National Indemnity		London	UK	EC3R 7DD	X
Sloane Poland Sp z.o.o.	100%	Marmon	Hubala Dobrzanski-79	Warsaw West	Poland	05-082	X
Slover Development Company LLC	100%	BNSF Railway					X
Smart Note (d/b/a for The Smart Group, L.P.)	99%	BH Auto	810 Hester's Crossing, Ste 235	Round Rock	TX	78681	X
Smile Loyalty Limited	11.4%	Phillips 66	200-202 Aldersgate St, 7th Fl.	London	UK	EC1A 4HD	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Smilemakers Canada, Inc.	100%	Oriental Trading	P.O. Box 2543	Spartanburg	SC	29304	
Smilemakers for Children Company	100%	Oriental Trading	91 Station Street	Ajax	Ontario, Canada	L1S 3H2	X
Smilemakers, Inc.	100%	Oriental Trading	P.O. Box 2543	Spartanburg	SC	29304	X
Smyth County Marketplace	100%	BH Media		Bristol	VA		X
Smyth County News & Messenger	100%	BH Media	119 S. Sheffey Street	Marion	VA	24354	X
SN Management, Inc.	100%	BH Auto	P.O. Box 16460	Phoenix	AZ	85011	X
Sociedad Internacional de Servicios de Panama, S.A.	14.65%	American Express	Calle 50, PO Box 816-03358	Panama City	Panama		X
Societe Africaine de Produits Tomates de Cote d'Ivoire, S.a.r.l.	26.86%	Kraft Heinz			Ivory Coast		
Soco West, Inc.	100%	National Indemnity	1100 W. Commonwealth Ave.	Fullerton	CA	92833	X
Söfft Shoe Company, LLC	100%	HH Brown	100 Brickstone Sq., Suite 502	Andover	MA	01810	X
Soledad Dialysis Center, LLC	17.95%	DaVita Healthcare	901 Los Coches Drive	Soledad	CA	93960	X
SolutionOne (<i>d/b/a for Applied Underwriters</i>)		Applied Underwriters	950 Tower Lane, 14th Floor	Foster City	CA	94404	X
Somerset Acres		Medical Protective	5814 Reed Road	Fort Wayne	IN	46835	X
Somerset Services, Inc.	100%	Medical Protective	5814 Reed Road	Fort Wayne	IN	46835	X
Somerville Dialysis Center, LLC	17.95%	DaVita Healthcare	12475 US Highway 64	Somerville	TN	38068	X
Sometrics, Inc.	14.65%	American Express	909 North Sepulveda Blvd, Suite 860	El Segundo	CA	90245	X
Songbird Limited	14.65%	American Express	372 Old Street	London	England	EC1V 9LT	X
South African Travellers Cheque Company (Pty) Ltd.	14.65%	American Express					X
South Central Florida Dialysis Partners, LLC	17.95%	DaVita Healthcare	4750 Old Canoe Creek Road	St. Cloud	FL	34769	X
South County Fiat (<i>d/b/a for FMAVT Motors, LLC</i>)	83%	BH Auto	28400 Marguerite Pkwy	Mission Viejo	CA	92692	X
South County Gypsum (<i>d/b/a for L&W Supply Corporation</i>)	29.95%	USG	11130 Delaware Parkway	Crown Point	IN	46307	X
South County Lexus (<i>d/b/a for MVVT Motors, LLC</i>)	83%	BH Auto	28442 Marguerite Pkwy	Mission Viejo	CA	92692	X
South County Maserati (<i>d/b/a for FMAVT Motors, LLC</i>)	83%	BH Auto	28400 Marguerite Pkwy	Mission Viejo	CA	92692	X
South Fork Dialysis, LLC	17.95%	DaVita Healthcare	560 E Herndon Ave, Ste 101	Fresno	CA	93720	X

BERKSHIRE HATHAWAY INC. (10% and greater)

South Pacific Credit Card Ltd.	14.65%	American Express	600 Great South Road	Greenlane, Auckland	New Zealand	1051	
South Shore Dialysis Center, L.P.	17.95%	DaVita Healthcare	212 Gulf Freeway South	League City	TX	77573	X
Southcrest Dialysis, LLC	17.95%	DaVita Healthcare	9001 South 101st East Avenue	Tulsa	OK	74133	X
Southeastern Indiana Dialysis, LLC	17.95%	DaVita Healthcare	2340 North State Highway 7	North Vernon	IN	47265	X
Southern Africa Travellers Cheque Company (Pty.) Ltd.	14.65%	American Express	1st Floor Grosvenor Corner, 195, Jan Smuts Avenue	Johannesburg	South Africa	2196	X
Southern Colorado Joint Ventures, LLC	17.95%	DaVita Healthcare	6910 Bandlely Drive	Fountain	CO	80817	X
Southern Energy Homes of North Carolina, Inc.		Clayton Homes	PO Box 452	Garner	NC	27529	X
Southern Energy Homes of Pennsylvania, Inc.		Clayton Homes	80 Palm Circle	Lehighton	PA	18235	X
Southern Energy Homes Retail Corporation		Clayton Homes	PO Box 390	Addison	AL	35540	X
Southern Energy Homes, Inc.	100%	Clayton Homes	144 Corporate Way	Addison	AL	35540	X
Southern Energy UK Generation Limited	11.4%	Phillips 66	2 Portman Street	London	UK	W1H 6DU	X
Southern Hills Dialysis Center, LLC	17.95%	DaVita Healthcare	9280 West Sunset Road	Las Vegas	NV	89148	X
Southlake Dialysis, LLC	17.95%	DaVita Healthcare	1710 N 9th Street	Broken Arrow	OK	74012	X
Southview Apartments, L.P.	98.99%	National Indemnity	9233 Ward Parkway, Suite 240	Kansas City	MO	64114	X
Southwest Atlanta Dialysis Centers, LLC	17.95%	DaVita Healthcare	1987 Candler Road	Decatur	GA	30032	X
Southwest Greens International LLC	100%	Shaw	1302 Macy Drive	Roswell	GA	30076	X
Southwest Indiana Dialysis, LLC	17.95%	DaVita Healthcare	6721 Old Trail Road Ste 100	Fort Wayne	IN		X
Southwest Iowa Newspapers, Inc.	100%	BH Media	535 W Broadway, Suite 300	Council Bluffs	IA	51503	X
Southwest Kidney-DaVita Dialysis Partners, LLC	17.95%	DaVita Healthcare	811 N Tegner Street Suites 101, 103, 105, 107	Wickenburg	AZ	85390	X
Spalding (a division of Russell Corporation)	100%	Russell Corporation	150 Brookdale Road	Springfield	MA	01104	X
Spalding Holdings Limited	60%	Russell Corporation			Hong Kong		X
Spalding Japan KK	100%	Russell Corporation	1-10-10 Shinkawa	Chuo-Ku, Tokyo	Japan		X
Spalding Sporting Goods China Limited	100%	Russell Corporation			China		X
Spalding Sporting Goods Limited	100%	Russell Corporation	26 Upper Pembroke Street	Dublin 2	Ireland		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Specialty Bolt & Stud Inc.		Marmon	97 Bronte Street N.	Milton	Ontario, Canada	L9T 2N8	X
Spectra Canada, Inc.	100%	Shaw	1809 Merrittville Hwy	Fonthill	Ontario, Canada	L0S 1E6	X
Spectra Contract Flooring & Williams Tile and Marble Company d/b/a S&W Flooring		Shaw	6223 Roswell Road	Atlanta	GA	30328	X
Spectra Contract Flooring Puerto Rico, Inc.	100%	Shaw	616 East Walnut Avenue	Dalton	GA	30721	X
Spencer Housing Associates, L.P.	99.99%	National Indemnity		Spencer	TN		X
Spirit Insurance Company	11.4%	Phillips 66	One Church Street	Burlington	VT	05401	X
Spool LLC	100%	Iscar					X
Sports Complex Holdings, LLC	100%	Shaw	616 R Walnut Ave	Dalton	GA	30721	X
Springs Dialysis, LLC	17.95%	DaVita Healthcare	2700 Village Parkway	Highland Village	TX	75077	X
SSLVT Motors, LLC	93%	BH Auto	1550 E. Missouri #300	Phoenix	AZ	85014	X
SSP-SiMatrix, Inc.	100%	Lubrizol	1131 North US Highway 93	Victor	MT	59875	X
SSS Acquisition Inc.	100%	MiTek	14515 N Outer Forty Road, Suite 300	Chesterfield	MO	63017	X
St. Anthony SLF, LLC	99.99%	National Indemnity		Oak Brook	IL	60523	X
St. Joseph Terminal Railroad Company	50%	BNSF Railway		St. Joseph	MO		X
St. Luke's Dialysis, LLC	17.95%	DaVita Healthcare	12800 Shaker Boulevard	Cleveland	OH	44120	X
Stafford County Sun		BH Media	P.O. Box 1400	Stafford	VA	22554	X
Stagecoach Pass Limited Partnership	100%	BH Auto		Phoenix	AZ		X
Stahl/Scott Fetzer Company	100%	Scott Fetzer	3201 West Old Lincoln Way	Wooster	OH	44691	X
Standard Plywoods, Inc. (d/b/a for Anderson Hardwood Floors, Inc.)		Shaw	384 Charlottes Road	Clinton	SC	29325-4935	X
Star Dialysis, LLC	17.95%	DaVita Healthcare	201 SW L Street	Grants Pass	OR	97526	X
Star Furniture Company	100%	Berkshire Hathaway	16666 Barker Springs Road	Houston	TX	77084	X
Star Lake Railroad Company	100%	BNSF Railway	1700 E Golf Road	Schaumburg	IL	60173	X
Star-Herald (d/b/a for Scottsbluff Publishing Company, Inc.)	100%	BH Media	1405 Broadway	Scottsbluff	NE	69363	X
Star-Kist International, Abidjan	26.86%	Kraft Heinz		Abidjan	Ivory Coast		

BERKSHIRE HATHAWAY INC. (10% and greater)

State Line Drywall (d/b/a for L&W Supply Corporation)	29.95%	USG	285 Main Street	Antioch	IL	60002	X
Statesville Record & Landmark	100%	BH Media	222 E. Broad St.	Statesville	NC	28677	X
Steam Dialysis, LLC	17.95%	DaVita Healthcare	1 Action Blvd, Suite 2	Londonderry	NH	03053	X
Steele Dialysis, LLC	17.95%	DaVita Healthcare	865 Harding Way W	Galion	OH	44833	X
Steele Lawton Pointe LLC	99.99%	National Indemnity	6795 E Tennessee Ave Ste 510	Denver	CO	80224	X
Steele Tower Apartments, LLC	99.99%	National Indemnity			SD		X
Sterling Crane (Australia) Pty Ltd.	100%	Marmon			Australia		X
Sterling Crane (Singapore) Pte. Ltd.	100%	Marmon			Singapore		X
Sterling Crane LLC	100%	Marmon	P.O. Box 8610, Station South, 2440-76 Avenue	Edmonton	Alberta, Canada	T6E 6R2	X
Sterling Homes (d/b/a for Forest River, Inc.)	100%	Forest River, Inc.	1025 E. Waterford Street	Wakarusa	IN	46573	X
Stern Leach Company	100%	Richline Group	49 Pearl Street	Attleboro	MA	02703	X
Stern Metals Inc.		Richline Group	23 Frank Mossberg Drive	Attleboro	MA	02703	X
Stevenson Dialysis, LLC	17.95%	DaVita Healthcare	P.O. Box 2076	Tacoma	WA	98401	X
Stewart Dialysis, LLC	17.95%	DaVita Healthcare	4200 MacDonald Ave, Ste A	Richmond	CA	94805	X
STGS Tunisie	100%	Marmon					X
Stines Dialysis, LLC	17.95%	DaVita Healthcare	230 Clearfield Avenue	Virginia Beach	VA	23462	X
Stockholm Central Hotel KB	14.65%	American Express	Vasag 38	Stockholm	Sweden	111 20	X
Stonebriar Chevrolet I, LLC d/b/a Stonebriar Chevrolet	81%	BH Auto	9950 State Highway 121	Frisco	TX	75035	X
Stonewall Insurance Company	100%	Columbia Insurance	3024 Harney Street	Omaha	NE	68131	X
Stonyridge Trust			1201 Market Street, Suite 1001	Wilmington	DE	19801	X
Store Opening Solutions LLC	100%	Marmon	800 Middle Tennessee Blvd.	Murfreesboro	TN	37129	X
Storrie Dialysis, LLC	17.95%	DaVita Healthcare	2200 North Limestone Street, Suite 104	Springfield	OH	45503	X
Stouls Larson-Juhl SAS	100%	Larson Juhl	9-11 rue de l'Orme Saint Germain	Champlan (Cedex)	France	91165	X
Strategic Staff Management, Inc.	100%	Applied Underwriters	202 South 71st Street	Omaha	NE	68132	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Strathcona Decorating Centre Ltd.		Benjamin Moore	Lakeland Ridge Shopping Centre, Unit 220 - 550 Baseline Road	Sherwood Park	Alberta Canada	T8H 2G8	X
Streater LLC	100%	Marmon	411 South First Avenue	Albert Lea	MN	56007	X
Strick Canada, Ltd.	100%	XTRA Corporation	1801 Park 270 Dr, Suite 400	St. Louis	MO	63146	X
Strongsville Dialysis, LLC	17.95%	DaVita Healthcare	17792 Pearl Road	Strongsville	OH	44136	X
Structural Soft, LLC		MiTek	2051 Junction Ave., Suite 235	San Jose	CA	95131	X
Styles Paint Inc.		Benjamin Moore	2455 Millstream Ave.	Victoria	BC	V9B 3R5	X
Stylmod Lingerie SAS		Fruit of the Loom	Impasse Saint-Eloi	Gretz Armainvilliers	France	77220	X
Suburban Newspapers, Inc.	100%	BH Media	1314 Douglas St, Suite 1500	Omaha	NE	68102	X
Sugar Hill Crossing, LLC	99.99%	National Indemnity	10173 Northline Street	St. James	LA	70086	X
Sugarite Dialysis, LLC	17.95%	DaVita Healthcare	4600 Shelbyville Rd, Ste 310	Louisville	KY	40207	X
Sugarloaf Dialysis, LLC	17.95%	DaVita Healthcare	2135 Main Street East	Snellville	GA	30078	X
Summer Dialysis, LLC	17.95%	DaVita Healthcare	1112 Old Bethlehem Pike	Sellersville	PA	18960	X
Summit Dialysis Center, L.P.	17.95%	DaVita Healthcare	3150 Polk Street	Houston	TX	77003	X
Summit Distribution Services, Inc.		McLane	4747 McLane Parkway	Temple	TX	76504	X
Summit Marine Services, L.L.C.	100%	Charter Brokerage	8280 Ymca Plaza Dr, Bldg 2	Baton Rouge	LA	70810	X
Sun City Dialysis Center, LLC	17.95%	DaVita Healthcare	600 Newman Street	El Paso	TX	79902	X
Sun City West Dialysis Center LLC	17.95%	DaVita Healthcare	13907 W Camino del Sol, #103	Sun City West	AZ	85375	X
Sun Desert Dialysis, LLC	17.95%	DaVita Healthcare	13000 N 103rd Ave, Ste 66	Sun City	AZ	85351	X
SunAmerica Affordable Housing Partners 127, A Nevada Limited Partnership	100%	National Indemnity	1 SunAmerica Center, 36th Fl.	Los Angeles	CA	90067	X
SunAmerica Affordable Housing Partners 170	99.9%	BNSF Railway	1 Sun America Center	Los Angeles	CA	90067	X
SunAmerica Affordable Housing Partners 176, A Nevada Limited Partnership	99.9%	National Indemnity	1 Sun America Center	Los Angeles	CA	90067	X
Sunset Dialysis, LLC	17.95%	DaVita Healthcare	3071 Gold Canal Drive	Rancho Cordova	CA	95670	X
Sunset Railway Company	50%	BNSF Railway	3770 East 26th Street	Los Angeles	CA	90023	X
Super Shoe Stores (d/b/a for Macro Retailing, LLC)	100%	HH Brown	601 Dual Highway	Hagerstown	MD	21740	X

BERKSHIRE HATHAWAY INC. (10% and greater)

SuperBuzz	100%	BH Media	1100 Park Place	Hickory	NC	28603	X
Superior Acquisition Corp.	100%	Fruit of the Loom	One Fruit of the Loom Drive	Bowling Green	KY	42103	X
Superstition Springs Lexus (d/b/a for SSLVT Motors, LLC)	93%	BH Auto	6206 E. Test Drive	Mesa	AZ	85206	X
Sure Drive USA Inc.		Marmon	2039 American Avenue	Hayward	CA	94545	X
Surprise Ford (d/b/a for SFVT Investors, LLC)	78%	BH Auto	16825 W. Waddell Rd	Surprise	AZ	85388	X
Sutol AG	100%	Iscar		Sion, Canton du Valais	Switzerland		
SV Maintenance LLC	100%	XTRA Corporation	1801 Park 270 Drive Suite 400	St. Louis	MO	63146	X
Sweeny Cogen LP	11.4%	Phillips 66	600 North Dairy Ashford	Houston	TX	77079	X
Swimbrite, LLC	100%	Johns Manville	2100 Line Street	Brunswick	GA	31520	
Swiss Bankers Prepaid Services AG	14.65%	American Express	Kramgasse 4	Grosshöchstetten	Switzerland	3506	X
Swisscard AECS AG	14.65%	American Express	Neugasse 18	Horgen	Switzerland	8810	X
SWVA Today	100%	BH Media	460 W. Main Street	Wytheville	VA	24382	X
Symetra Financial Corporation	17.3%	Symetra	777 108th Ave NE, Suite 1200	Bellevue	WA	98004	X
Symetra Investment Services, Inc.	17.3%	Symetra	777 108th Ave NE, Suite 1200	Bellevue	WA	98004	X
Symetra Life Insurance Company	17.3%	Symetra	777 108th Ave NE, Suite 1200	Bellevue	WA	98004	X
Symetra National Life Insurance Company	17.3%	Symetra	777 108th Ave NE, Suite 1200	Bellevue	WA	98004	X
Symetra Reinsurance Corporation	17.3%	Symetra	777 108th Ave NE, Suite 1200	Bellevue	WA	98004	X
Symetra Securities, Inc.	17.3%	Symetra	777 108th Ave NE, Suite 1200	Bellevue	WA	98004	X
Syndicate Underwriting Research Ltd.	12.07%	Moody's	2 Minster Court, Mincing Lane	London	England	EC3R 7FL	X
Syrgis Holdings, Inc.	100%	Lubrizol	4555 Lake Forest Drive, Suite 650	Cincinnati	OH	45242	X
Systemate Numafa B.V.	100%	CTB International	Edisonstraat 1-3 PB 7458	Numansdorp	Netherlands	3281 NC	X
T.C.E.		TaeguTec	132 South Elm Street	West Carrollton	OH	45449	X
Taegutec (Thailand) Ltd.	51%	Iscar	6/177 Moo7 Srinakarin Rd., T.Bangmuang, A.Muangsamutprakarn	Samutprakarn	Thailand	10270	X
Taegutec Argentina S.A.	100%	Iscar	11 de septiembre, De 1888 Nro 4237, Piso 7, Ciudad Autonoma	Buenos Aires	Argentina	C149BJC	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Taegutec Australia Pty. Ltd.	100%	Iscar	Unit 53/9 Hoyle Avenue, Castle Hill P/C	Sydney	Australia	NSW 2154	X
TaeguTec Brasil Ltd.		Iscar	Rua Tito, 104-Lapa-Cep	São Paulo	Brazil	05051-000	X
TaeguTec China		Iscar	RM 1205, Huishang Office Bldg, No. 1286 of Minsheng RD	Pudong New District, Shanghai	China	200135	X
TaeguTec CR s.r.o.	51%	Iscar	Domažlická 180a	Plzen	Czech Republic	CZ-31800	X
Taegutec Cutting Tools Trading Shanghai Co. Ltd.	100%	Iscar	Room 1001, 10/F., Baosteel Pudong International Trade Tower, 88 Hedan Road	Shanghai	China	200131	X
Taegutec d.o. Brazil Ltda.	100%	Iscar	Rua Tito, 104 - Lapa	Sao Paulo	Brazil		X
Taegutec France Sarl		Iscar	82 quai Auguste Prevost	Chelles	France	77500	X
Taegutec Hungary Kft	100%	Iscar	HOSSZÚRÉT U. 1.	Törökbálint	Hungary	2045	X
Taegutec Inc.	100%	Iscar	46906 Liberty	Wixom	MI	48393-3600	X
Taegutec India Private Ltd.	65%	Iscar	Plot Nos. 119 and 120, Bommasandra Industrial Area	Phase IV, Bangalore	India	560 099	X
Taegutec Italia s.r.l.		Iscar	Piazza V.Veneto, 16-10043	Orbassano	Torino, Italy		X
Taegutec Japan Ltd.	100%	Iscar	Endo Bldg.1F 1-14-25 Tachibana Naka-ku	Nagoya	Japan	460-0016	X
Taegutec Kesici Takimler Sanayi Ve Ticaret A.S.	51%	Iscar	Keyap Çarşı Sit. F2 Blok No: 101/A	Y.Dudullu, Istanbul	Turkey	34775	X
TaeguTec Ltd.	100%	Iscar	304 Yonggye-ri, Gachang-myeon, Dalsung- gun	Taegu	Korea	711-860	X
Taegutec Polska SP.z.o.o.	100%	Iscar	ul. Koscielna 8	Wroclaw	Poland	52-314	X
Taegutec RUS LLC	100%	Iscar	195, Moskovskaya St., office 731	Ekaterinburg	Russia	620144	X
TaeguTec Russia		Iscar	Building 5, 2nd Magistralnaya Str 8A	Moscow	Russia	123008	X
Taegutec Scandinavia A/S	100%	Iscar	Omřgade 8	Copenhagen	Denmark	DK-2100	X
Taegutec Slovakia S.R.O.	100%	Iscar	K muzeu 3	Zilina	Slovakia	1003	X
TaeguTec South Africa (Pty) Ltd.	51%	Iscar	P.O. Box 3121, Springs, 1560 43 South Main Reef Road	New Era Springs Gauteng	South Africa		X
Taegutec Spain, S.L.	100%	Iscar	Miquel Servet, 35, P.I. Bufalvent	Manresa Barcelona	Spain	08243	X
TaeguTec Taiwan Ltd.		Iscar	No.1042-3, Minzu 1st Rd., Zuoying District	Kaohsiung City	Taiwan	813	X
Taegutec Tooling Systems Malaysia Sdn. Bhd.	100%	Iscar	No5, Jalan Sungai Kayu Ara32/39, Taman Berjaya, Seksyen 32	Shah Alam Selangor Darul Ehsan	Malaysia	40460	X
Taegutec Tools SRL		Iscar	59 Dacia Blvd., Corp Anexa, 1st floor	District 1, Bucharest	Romania	010407	X

BERKSHIRE HATHAWAY INC. (10% and greater)

TaeguTec Turkey		Iscar		Istanbul	Turkey		X
Taegutec U.K. Ltd.	100%	Iscar	Waterside, Grange Park	Wetherby	Leeds, UK	Ls22 5NB	X
TaeguTec Ukraine LLC	51%	Iscar	40-b Pushkin prospect	Dnepropetrovsk	Ukraine	49006	X
Taiwan Full Dare Co., Ltd.		TaeguTec	No. 176, Hwan-Pei Road	Chungli City	Taiwan	32011	X
Talimena Dialysis, LLC	17.95%	DaVita Healthcare	15600 NW 15th Ave., Suite D	Miami	FL	33169	X
Tannor Dialysis, LLC	17.95%	DaVita Healthcare	111 S Campbell Station Road	Farragut	TN	37934	X
Tasso AB		Johns Manville		Oskarstrom	Sweden		X
Taylor Dialysis, LLC	17.95%	DaVita Healthcare	3100 West 2nd Street	Taylor	TX	76574	X
TBS Canada, Inc.	100%	MiTek	9415 48th St. S.E.	Calgary	Alberta Canada	T2C2R1	X
TBS Engineering, Ltd.	100%	MiTek	Longhill, Elmstone Hardwicke	Cheltenham	Gloucestershire	GL51 9TY	X
TBS USA, Inc.	100%	MiTek	2464 Ferry St., SW	Albany	OR	97322	X
TDMIE Co., Ltd.		Iscar	R4-80, Hung Gia 4, Phu My Hung, Tan Phong Ward, Dist. 7	Hochiminh City	Vietnam		X
TE Wire & Cable LLC	100%	Marmon	107 North 5th Street	Saddle Brook	NJ	07663	X
Ted Smith Equipment Co., Inc.		Marmon	3183 South Parkway Drive	Fresno	CA	93725	X
Tekmax, Inc.		MiTek	781 Lake Street	Frankfort	MI	49635	X
Tel-Huron Dialysis, LLC	17.95%	DaVita Healthcare	225 Summit Drive	Waterford	MI	48328	X
Tenecom Limited	100%	National Indemnity	Birchin Court, 20 Birchin Lane	London	UK	EC3V 9DU	X
Tennessee Valley Dialysis Center, LLC	17.95%	DaVita Healthcare	107 Woodlawn Dr, Suite 2	Johnson City	TN	37604	X
Terminal Railroad Association of St. Louis	14.29%	BNSF Railway	1000 Union Station # 200	St. Louis	MO	63103	X
Terza S.A. de C.V.	49.8%	Shaw	Carratera Monclova KM. 11.5, C.P. 66550 El Carmen	Nuevo Leon	Mexico		X
Teton Dialysis, LLC	17.95%	DaVita Healthcare	13003 Delaney Street	La Marque	TX	77568	X
Texas City Terminal Railway Company	33.34%	BNSF Railway	2425 Highway 146 North	Texas City	TX	77590	X
Texas Insurance Company	100%	Applied Underwriters	10805 Old Mill Road	Omaha	NE	68154	X
Texas Nissan of Grapevine (d/b/a for GPVN Motors, LLC)	75%	BH Auto	1401 W. State Highway 114	Grapevine	TX	76051	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Texas Scion		BH Auto	701 E State Hwy 114	Grapevine	TX	76051	X
Texas Toyota of Grapevine (<i>d/b/a for Grapevine Imports, LLC</i>)	81%	BH Auto	701 E State Hwy 114	Grapevine	TX	76051	X
Textile Lourdes Limitada	100%	Fruit of the Loom	Km 24 Carretera A	Santa Ana	El Salvador		X
Textiles del Caribe S.de.R.L.de C.V.	100%	Fruit of the Loom		San Pedro Sula	Honduras		X
Thai Tungalay Cutting Tool Co., Ltd.		Iscar	Sukhumvit 63 Klongtonnue, Wattana	Bangkok	Thailand	10110	X
Thawte Consulting (Pty) Limited	11.11%	VeriSign Inc.	P O Box 15986	Panorama, Cape Town	South Africa	7500	X
Thawte Holdings (Pty) Limited	11.11%	VeriSign Inc.	P O Box 15986	Panorama, Cape Town	South Africa	7500	X
The .TV Corporation (Tuvalu) Pty Ltd.	11.11%	VeriSign Inc.			Tuvalu		X
The .tv Corporation International	11.11%	VeriSign Inc.	21345 Ridgetop Circle	Dulles	VA	20166	X
The American Express Nominees Limited (98% owned by American Express)	14.03%	American Express	60 Buckingham Palace Road	London	England	SW1 0RR	X
The Amherst New Era Progress	100%	BH Media	134 Second Street	Amherst	VA	24521	X
The Ashland Gazette (<i>d/b/a for Suburban Newspapers, Inc.</i>)	100%	BH Media	1518 Silver Street	Ashland	NE	68003	X
The B.V.D. Licensing Corp.	100%	Fruit of the Loom	One Fruit of the Loom Drive	Bowling Green	KY	42103	X
The Balcor Company	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
The Balcor Company Holdings, Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
The Base: 68113 (<i>d/b/a for Suburban Newspapers, Inc.</i>)	100%	BH Media	604 Fort Crook Rd N	Bellevue	NE	68005	X
The Belt Railway Company of Chicago	16.67%	BNSF Railway	6900 South Central Avenue	Bedford Park	IL	60638	X
The Belvoir Eagle	100%	BH Media	9820 Flagler Road	Fort Belvoir	VA	22060	X
The Bland County Messenger	100%	BH Media	460 West Main Street	Wytheville	VA	24382	X
The British Aviation Insurance Company Limited	38.14%	National Indemnity	Fitzwilliam House, 10 St Mary Axe	London	UK	EC3A 8EQ	X
The Buffalo News, Inc.	100%	Berkshire Hathaway	PO Box 100	Buffalo	NY	14240	X
The Burg	100%	BH Media	101 Wyndale Drive	Lynchburg	VA	24501	X
The Burlington Northern and Santa Fe Railway Company de Mexico, S.A. de C.V.	100%	BNSF Railway	Insurgentes Sur 1196-902 Colonia del Valle	Mexico City	Mexico	3200	X
The C. D. Hartnett Company (<i>d/b/a for McLane Express, Inc.</i>)	100%	McLane	302 North Main Street	Weatherford	TX	76086	X

BERKSHIRE HATHAWAY INC. (10% and greater)

The Cape May Gazette	100%	BH Media	507 S. Shore Road	Marmora	NJ	08223	X
The Clinch Valley News	100%	BH Media	1945 Second Street	Richlands	VA	24641	X
The Corner News	100%	BH Media	117 North College Street	Auburn	AL	36830	X
The Current of Absecon & Pleasantville	100%	BH Media	3129 Fire Road, Suite 2	Egg Harbor Township	NJ	08234	X
The Current of Downbeach	100%	BH Media	3129 Fire Road, Suite 2	Egg Harbor Township	NJ	08234	X
The Current of Egg Harbor Township	100%	BH Media	3129 Fire Road, Suite 2	Egg Harbor Township	NJ	08234	X
The Current of Galloway Township & Port Republic	100%	BH Media	3129 Fire Road, Suite 2	Egg Harbor Township	NJ	08234	X
The Current of Hamilton Township & Egg Harbor City	100%	BH Media	3129 Fire Road, Suite 2	Egg Harbor Township	NJ	08234	X
The Current of Northfield, Linwood & Somers Point	100%	BH Media	3129 Fire Road, Suite 2	Egg Harbor Township	NJ	08234	X
The Daily Nonpareil (<i>d/b/a for Southwest Iowa Newspapers, Inc.</i>)	100%	BH Media	535 W Broadway, Suite 300	Council Bluffs	IA	51503	X
The Daily Progress	100%	BH Media	685 West Rio Road	Charlottesville	VA		X
The DaVita Collection, Inc.	17.95%	DaVita Healthcare	1551 Wewatta Street	Denver	CO	80202	X
The Dothan Eagle	100%	BH Media	227 N. Oates Street	Dothan	AL	36303	X
The Dothan Progress	100%	BH Media	PO Box 1927	Dothan	AL	36302	X
The Eagle	100%	BH Media	1729 Briarcrest Drive	Bryan	TX	77802	X
The Enterprise Ledger	100%	BH Media	106 North Edwards St.	Enterprise	AL	36330	X
The Essex Independent (<i>d/b/a for Western Iowa Newspapers, Inc.</i>)	100%	BH Media	702 W Sheridan Avenue	Shenandoah	IA	51601	X
The Eufaula Tribune	100%	BH Media	514 E. Barbour St.	Eufaula	AL	36027	X
The Fechheimer Brothers Company	98.784%	Fechheimer	4545 Malsbary Road	Cincinnati	OH	45242	X
The Floyd Press	100%	BH Media	710 E. Main St.	Floyd	VA	24091	X
The Franklin News-Post	100%	BH Media	310 Main Street, SW	Rocky Mount	VA	24151	X
The Goochland Gazette	100%	BH Media	P.O. Box 1118	Mechanicsville	VA	23111	X
The Grain Reclaim Machine Company, L.L.C.		CTB International	2070 NE 60th Avenue	Des Moines	IA	50313	X
The Grand Island Independent	100%	BH Media	422 W. 1st Street	Grand Island	NE	68802	X

BERKSHIRE HATHAWAY INC. (10% and greater)

The Hartsville Messenger	100%	BH Media	212 Swift Creek Rd.	Hartsville	SC	29550	X
The Hemingford Ledger	100%	BH Media		Hemingford	NE		X
The Heritage Cemetery Association	26.86%	Kraft Heinz	208 So Lasalle St, Suite 814	Chicago	IL	60604	X
The Indecor Group, Inc.	100%	Benjamin Moore	51 Chestnut Ridge Road	Montvale	NJ	07645	X
The Indecor Group, Limited	100%	Benjamin Moore	320 Catherine Street	Ottawa	Ontario, Canada	K1R 5T5	X
The Kerite Cable Services Company		Marmon	49 Day Street	Seymour	CT	06483	X
The Kerite Company	100%	Marmon	49 Day Street	Seymour	CT	06483	X
The King William Local	100%	BH Media		Mechanicsville	VA		X
The Kirby Company		Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X
The Koskovich Company		MiTek	905 North Broadway	Rochester	MN	55906	X
The Kraft Heinz Company	26.86%	Kraft Heinz	600 Third Avenue, 37th Floor	New York	NY	10016	X
The Langford Group		MiTek	7108 Fairway Drive # 280	Palm Beach Gardens	FL	33418	X
The Lubrizol Corporation	100%	Lubrizol	29400 Lakeland Boulevard	Wickliffe	OH	44092	X
The Lubrizol Foundation		Lubrizol	29400 Lakeland Boulevard	Wickliffe	OH	44092	X
The Madison Messenger	100%	BH Media	1921 Vance St.	Reidsville	NC	27320	X
The Marmon Group Limited	100%	Marmon	Booth Drive	Wellingborough, Northamptonshire	UK	NN8 6GR	X
The Marmon Group LLC	100%	Marmon	181 West Madison St., 26th Floor	Chicago	IL	60602	X
The Marmon Group of Canada Ltd.	100%	Marmon	54 West Beaver Creek Road	Richmond	Ontario, Canada	L4B 1G5	X
The Marmon Water Group		Marmon	1769 Jamestown Road	Williamsburg	VA	23185	X
The Martinsville Bulletin	100%	BH Media	204 Broad Street	Martinsville	VA	24115	X
The McDowell News	100%	BH Media	136 Logan Street	Marion	NC	28752	X
The Mechanicsville Local	100%	BH Media	6400 Mechanicsville Turnpike	Mechanicsville	VA	23111	X
The Medical Protective Company	100%	Medical Protective	5814 Reed Road	Fort Wayne	IN	46835	X
The Middle Township Gazette	100%	BH Media	507 S. Shore Road	Marmora	NJ	08223	X

BERKSHIRE HATHAWAY INC. (10% and greater)

The Moody's Foundation	12.07%	Moody's	7 World Trade Center, 250 Greenwich St.	New York	NY	10007	X
The Mooresville Tribune	100%	BH Media	P.O. Box 300	Mooresville	NC	28115	X
The Morning News	100%	BH Media	310 S. Dargan St.	Florence	SC	29506	X
The Nelson County Times	100%	BH Media	134 Second Street	Amherst	VA	24521	X
The News & Advance	100%	BH Media	101 Wyndale Drive	Lynchburg	VA	24501	X
The News Herald	100%	BH Media	301 Collett Street	Morganton	NC	28655	X
The News Virginian	100%	BH Media		Waynesboro	VA		X
The Oakland Terminal Railway	50%	BNSF Railway	15 Engineer Road	Oakland	CA	94601	X
The Ocean City Gazette	100%	BH Media	507 S. Shore Road	Marmora	NJ	08223	X
The Opelika Bulletin	100%	BH Media	2901 Society Hill Road	Opelika	AL	36801	X
The Opelika News	100%	BH Media	2901 Society Hill Road	Opelika	AL	36801	X
The Pampered Chef - Canada Corp.	100%	Pampered Chef	85 Citizen Court, Units 12 & 13	Markham	Ontario, Canada	L6G 1A8	X
The Pampered Chef - UK, Ltd.	100%	Pampered Chef	Unit D Riding Court, Riding Court Road	Datchet	Berkshire	SL39JT	X
The Pampered Chef Deutschland GmbH	100%	Pampered Chef	Monreposstrabe 55	Ludwigsburg-Eglosheim	Germany	71634	X
The Pampered Chef Import Mexico S De RL De CV	100%	Pampered Chef			Mexico		X
The Pampered Chef Mexico S De RL De CV	100%	Pampered Chef	Calzada Del Valle No. 400 Local 34 Col. De	Valle San Pedro Garza García N.L.	Mexico	CP66220	X
The Pampered Chef, Ltd.	100%	Pampered Chef	One Pampered Chef Lane	Addison	IL	60101	X
The Press of Atlantic City	100%	BH Media	1000 West Washington Ave.	Pleasantville	NJ	08232	X
The Quantico Sentry	100%	BH Media	Public Affairs Office, Marine Corps Base	Quantico	VA	22134	X
The Reidsville Review	100%	BH Media	1921 Vance St.	Reidsville	NC	27320	X
The Roanoke Times	100%	BH Media	201 W. Campbell Avenue	Roanoke	VA	24010	X
The Rural Virginian	100%	BH Media	685 W. Rio Road	Charlottesville	VA	22901	X
The Scott Fetzer Electrical Group		Scott Fetzer	2268 Fairview Blvd	Fairview	TN	37062	X
The Scott Fetzer Powered Equipment Group		Scott Fetzer	875 Bassett Rd	Cleveland	OH	44145	X

BERKSHIRE HATHAWAY INC. (10% and greater)

The Scottish Lion Insurance Company Limited	100%	National Indemnity	Cutlers Exchange, 123 Houndsditch	London	UK	EC3A 7BU	X
The Shenandoah Shopper	100%	BH Media		Waynesboro	VA		X
The Smart Group, L.P.	99%	BH Auto	810 Hesters Crossing Rd	Round Rock	TX	78681	X
The Star-Exponent	100%	BH Media	471 James Madison Highway, Suite 201	Culpeper	VA	22701	X
The Star-Herald	100%	BH Media	1405 Broadway	Scottsbluff	NE	69361	X
The Upper Township Gazette	100%	BH Media	507 S. Shore Road	Marmora	NJ	08223	X
The Valley News	100%	BH Media	617 W. Sheridan Ave.	Shenandoah	IA	51601	X
The Waverly News (d/b/a for Suburban Newspapers, Inc.)	100%	BH Media	14210 Kenilworth	Waverly	NE	68462	X
The Weekly Observer	100%	BH Media	108 N Main Street	Hemingway	SC	29554	X
The Wichita Union Terminal Railway Company	66.67%	BNSF Railway	1537 Barwise Street	Wichita	KS	67214	X
The Wildwood Leader	100%	BH Media	507 S. Shore Road	Marmora	NJ	08223	X
The Wilkins Corporation	100%	MiTek	12221 Arch Street	Little Rock	AR	72206	X
The Woodbine Twiner (d/b/a for Southwest Iowa Newspapers, Inc.)	100%	BH Media	509 S. Walker Street	Woodbine	IA	51579	X
The Woodlands Dialysis Center, L.P.	17.95%	DaVita Healthcare	9301 Pinecroft Dr, Suite 130	Shenandoah	TX	77380	X
The Yuban Coffee Company	26.86%	Kraft Heinz	800 Westchester Ave, Rye Brook	New York	NY	10573	X
The Zia Company	100%	BNSF Railway	13446 Poway Road # 413	Poway	CA	92064	X
Thompson & Hills Limited	26.86%	Kraft Heinz	513 King Street North	Hastings	New Zealand	4122	X
Thorco Industries LLC	100%	Marmon	P.O. Box 110 1300 E. 12th Street	Lamar	MO	64759	X
THP Services, Inc.	17.95%	DaVita Healthcare	1665 Scenic Avenue Suite 100	Costa Mesa	CA	92626	X
Thunderbird Building Materials (d/b/a for L&W Supply Corporation)	29.95%	USG	2808 N. 27th Avenue	Phoenix	AZ	85009	X
Tiger Industries L.P.		Marmon	6444 42nd Street SE	Calgary	Alberta, Canada	T2C 2V1	X
TimesDispatch.com	100%	BH Media		Richmond	VA		X
Timmins Decorating Centre Ltd.		Benjamin Moore	11 Rea St. N., Suite 105	Timmins	ON	P4N 4Z5	X
TMG Forvaltning Handelsbolag	14.65%	American Express	Magnus Ladulaasgatan 5	Stockholm	Sweden	S-106 82	X

BERKSHIRE HATHAWAY INC. (10% and greater)

TMI Climate Solutions Canada Inc.	100%	MiTek					X
TMI Climate Solutions, Inc.	100%	MiTek	200 Quality Way	Holly	MI	48442	X
TMI Industrial Air Systems (d/b/a for TMI Climate Solutions, Inc.)	100%	MiTek	200 Quality Way	Holly	MI	48442	X
TMKS-Real Estate	100%	Iscar					X
TMKS-Technology	100%	Iscar					X
TNCOR Ltd.	26.86%	Kraft Heinz	Weizmann 4	Tel Aviv-Jaffa	Israel	6423904	X
TODVT LLC	81%	BH Auto	2610 Forest Lane	Dallas	TX	75234	X
TOHVT Development, Inc.	100%	BH Auto	P.O. Box 16460	Phoenix	AZ	85011	X
TOHVT Motors, LLC	96%	BH Auto	601 North 108th Circle	Omaha	NE	68154	X
Toledo Drywall Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	26470 Southpoint	Perrysburg	OH	43551	X
Tongue River Holding Company LLC	33.33%	BNSF Railway					X
Tongue River Railroad Company, Inc.	33.33%	BNSF Railway	2280 Grant Rd Ste B	Billings	MT	59102	X
Tonicstar Limited	100%	National Indemnity	Birchin Court, 20 Birchin Lane	London	UK	EC3V 9DU	X
Tony Lama Company, Inc.	100%	Justin Brands	P.O. Box 548	Fort Worth	TX	76101	X
Tool-Flo Manufacturing, Inc.	80%	Iscar	7803 Hansen Road	Houston	TX	77061	X
Top Five Club, Inc.	100%	GEICO	One GEICO Plaza	Washington	DC	20076	X
Top Taste Company Limited	26.86%	Kraft Heinz	513 King Street North	Hastings	New Zealand		X
TOR Dealership Property, LP	100%	BH Auto	P.O. Box 795	Shawnee Mission	KS	66201	X
Tortugas Dialysis, LLC	17.95%	DaVita Healthcare	2049 E Shelby Drive	Memphis	TN	38116	X
Total Acute Kidney Care, Inc.	17.95%	DaVita Healthcare	21250 Hawthorne Blvd, Ste 800	Torrance	CA	90503	X
Total Quality Apparel Resources, Inc.		Russell Corporation	2704 Transportation Ave Ste C	National City	CA	91950	X
Total Renal Care North Carolina, LLC	17.95%	DaVita Healthcare	226 Commercial Street	Forest City	NC	28043	X
Total Renal Care Texas Limited Partnership	17.95%	DaVita Healthcare	7200 Gateway Blvd E, Suite B	El Paso	TX	79915	X
Total Renal Care, Inc.	17.95%	DaVita Healthcare	2438 North Ponderosa Drive, Suite C101	Camarillo	CA	93010	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Total Renal Care/Crystal River Dialysis, L.C.	17.95%	DaVita Healthcare	7435 W Gulf to Lake Highway	Crystal River	FL	34429	X
Total Renal Care/Eaton Canyon Dialysis Center Partnership	17.95%	DaVita Healthcare	2551 E Washington Blvd	Pasadena	CA	91107	X
Total Renal Laboratories, Inc.	17.95%	DaVita Healthcare	1991 Industrial Drive	Deland	FL	32724	X
Total Renal Research, Inc.	17.95%	DaVita Healthcare	825 South 8th Street, Ste 300	Minneapolis	MN	55404	X
Totalight Systems (<i>d/b/a for France/Scott Fetzer</i>)	100%	Scott Fetzer	7109 Loblolly Pine Blvd	Fairview	TN	37062	X
Town East Dealership Property, L.P.	100%	BH Auto	8500 Shawnee Mission Pkwy	Shawnee Mission	KS	66202	X
Town East Ford II, LLC <i>d/b/a Town East Ford</i>	81%	BH Auto	18411 LBJ Freeway	Mesquite	TX	75150	X
Towne Square, L.C.	100%	BH Auto	P.O. Box 795	Mission	KS	66201	X
Townsend Dialysis, LLC	17.95%	DaVita Healthcare	1551 Wewatta St	Denver	CO	80202	X
Toyota of Dallas (<i>d/b/a for Toyota of Dallas</i>)	81%	BH Auto	2610 Forest Lane	Dallas	TX	75234	X
Toyota of Deerfield Beach (<i>d/b/a for KTVT Motors, LLC</i>)	96%	BH Auto	1441 S. Federal Highway	Deerfield Beach	FL	33441	X
Toyota of Richardson (<i>d/b/a for Richardson Automotive II, LLC</i>)	81%	BH Auto	1221 N. Central Expressway	Richardson	TX	75080	X
TPC European Holdings, Ltd.	100%	Pampered Chef	Corporate Trust Center, 1209 Orange St.	Wilmington	DE	19801	X
TPC N.A.S.A., Inc.	100%	Pampered Chef					X
TPC North America, Ltd.	100%	Pampered Chef	One Pampered Chef Lane	Addison	IL	60101	X
Trackmobile LLC	100%	Marmon	1602 Executive Drive	LaGrange	GA	30240	X
Trade Fixtures, LLC	100%	Marmon	1501 Westpark Drive, Suite 5	Little Rock	AR	72204	X
Trail Ltd.	33.3%	Marmon		Chicago	IL		X
Tranaslist A.B.	100%	Larson Juhl	Lindovagen 15, P.O. Box 2073	Sommen	Sweden	S-57302	X
Transco, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	X
Transfercom Limited	100%	National Indemnity	Birchin Court, 20 Birchin Lane	London	UK	EC3V 9DU	X
TransGUARD, Ltd.	100%	National Indemnity	547 Amherst St Ste 205	Nashua	NH	03063	X
Transition Holdings, LLC	100%	Marmon	3112 Oak Street	Jacksonville	FL	32205	X
Transmountain Dialysis, L.P.	17.95%	DaVita Healthcare	5255 Transmountain Drive, Suite B18	El Paso	TX	79924	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Transportation Group Management, Inc.		BNSF Railway	645 N. Michigan Ave	Chicago	IL	60611	X
TransUnion Limited	14.65%	American Express	9 Canton Road, Tower 6, Suite 1006, The Gateway	Tsim Sha Tsui	Hong Kong		X
Travel Impressions, Ltd.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
TRC El Paso Limited Partnership	17.95%	DaVita Healthcare	1382 Lomaland Drive, Suite A	El Paso	TX	79935	X
TRC of New York, Inc.	17.95%	DaVita Healthcare	333 Westchester Avenue, #E	West Harrison	NY	10604	X
TRC West, Inc.	17.95%	DaVita Healthcare	101 Convention Center Drive	Las Vegas	NV	89109	X
TRC-Dyker Heights, L.P.	17.95%	DaVita Healthcare		Dyker Heights	NY		X
TRC-Four Corners Dialysis Clinics, LLC	17.95%	DaVita Healthcare	Highway 163, Box 217	Kayenta	AZ	86033	X
TRC-Georgetown Regional Dialysis LLC	17.95%	DaVita Healthcare	6192 Oxon Hill Road	Oxon Hill	MD	20745	X
TRC-Indiana LLC	17.95%	DaVita Healthcare	21250 Hawthorne Blvd, Ste 800	Torrance	CA	90503	X
TRC-Petersburg, LLC	17.95%	DaVita Healthcare	15 W Old Street	Petersburg	VA	23803	X
Tree City Dialysis, LLC	17.95%	DaVita Healthcare	24467 West 10 Mile Road	Southfield	MI	48033	X
TRH Holding Corp.	100%	Marmon	3112 Oak Street	Jacksonville	FL	32205	X
Triangle Distributors Inc.	100%	Marmon	119 49th Street	Brooklyn	NY	11232	X
Triangle Suspension Systems, Inc.	100%	Marmon	P.O. Box 425, Maloney Rd.	DuBois	PA	15801	X
TriCities.com	100%	BH Media	320 Bob Morrison Blvd	Bristol	VA	24201	X
Trophy Nissan (d/b/a for TXVT LLC)	81%	BH Auto	5031 N. Galloway Ave	Mesquite	TX	75150	X
TRS Card International Inc.	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Tru-Kay (Richline Group, Inc. d/b/a Tru-Kay)	100%	Richline Group	2 Carol Drive	Lincoln	RI	02865	X
Truss Industry Production Systems Inc.	100%	MiTek	102 Vander Horck Street	Britton	SD	57430	X
Tsai Weng Ping Incorporated Limited	26.86%	Kraft Heinz		Shanghai	China		X
TSE Brakes GmbH	100%	Marmon	Daimlerring 4	Wiesbaden	Germany	65205	X
TSE Brakes, Inc.	100%	Marmon	2310 Industrial Drive S.W.	Cullman	AL	35055	X
TSE de Mexico, S.A. de C.V.	100%	Marmon	Madrid Hurtado S/N Parque Industrial San Luis	San Luis Rio Colorado	Mexico	83455	X

BERKSHIRE HATHAWAY INC. (10% and greater)

TT Pacific		Iscar	1/501 Mt. Wellington Highway	Sylvia Park, Auckland	New Zealand	1006	X
TT Romania		Iscar	59 Dacia Blv. Corp Anexa 1st floor District 1	Bucharest	Romania		X
TT Russia	51%	Iscar			Russia		X
TT South Africa	51%	Iscar	PO Box 3121 Springs 1560, 43 South Main Reef Rd	New Era Springs	Gauteng, South Africa		X
TT Tooling Systems		Iscar	BLK 502 Jurong West Avenue 1	Singapore	Singapore	640502	X
TT Ukraine	51%	Iscar	Spusk Kalinina	Dnepropetrovsk	Ukraine	10	X
TTI Elektronik Ticaret Ltd. Sti	100%	TTI, Inc.		Atasehir-Istanbul	Turkey		X
TTI Electronics (Thailand) Ltd.	100%	TTI, Inc.			Thailand		X
TTI Electronics Asia (India) Private Ltd	100%	TTI, Inc.			India		X
TTI Electronics Asia PTE Ltd.	100%	TTI, Inc.	3 Changi North St. 2, Trixex Bldg., #03-02		Singapore	498827	X
TTI Electronics Austria GmbH	100%	TTI, Inc.	Hutteldorferstrasse 299/Top 5	Wien	Austria	1140	X
TTI Electronics Czech SRO	100%	TTI, Inc.	Palackeho trida 3019 / 153b	Brno	Czech Republic	61200	X
TTI Electronics Denmark APS	100%	TTI, Inc.	Engager 2 -4, DK-2605	Brondby	Denmark	2605	X
TTI Electronics Europe GmbH	100%	TTI, Inc.	Ganghoferstr. 34	Maisach-Gernlinden	Germany	82216	X
TTI Electronics Hungary KFT	100%	TTI, Inc.	Robert Karoly krt. 59	Budapest	Hungary	1134	X
TTI Electronics LTD	100%	TTI, Inc.	Hanofer 1	Ra'anana	Israel	IL-43662	X
TTI Electronics Malaysia SDN BHD	100%	TTI, Inc.	B303-05-16 Krystal Point Jalan Sultan Azlan Shah	Bayan Lepas, Penang	Malaysia	11900	X
TTI Electronics Nordic AB	100%	TTI, Inc.	Johanneslundsvagen 2, 3 tr	Upplands-Vasby	Sweden	19461	X
TTI Especialistas en Pasivos y Conectores, S.L.	100%	TTI, Inc.	Parc Empresarial del Mediterrani, Passeig del Ferrocarril, 339 Planta 3a-4	Castelldefels	Spain	08860	X
TTI Finland OY	100%	TTI, Inc.	Lars Sonckin Kaari 14	Espoo, Uusimaa	Finland	02600	X
TTI France SARL	100%	TTI, Inc.	Le Voltaire, 1, Avenue Léo Lagrange	Brive-La-Gaillarde	France	19100	X
TTI Hong Kong Limited	100%	TTI, Inc.	Rm 607 6/F Lu Plz, 2 Wing Yip St.	Kwun Tong, Kowloon	Hong Kong		X
TTI Italy SRL	100%	TTI, Inc.	Via S. Crispino, 12	Padova	Italy	35129	X
TTI Latin America s. de R.L. de C.V.	100%	TTI, Inc.	Tlaquepaque	Jalisco	Mexico		X

BERKSHIRE HATHAWAY INC. (10% and greater)

TTI Net-Aye Ltd.	100%	TTI, Inc.	13 Atir Yeda St., POB 2152	Kfar-Saba	Israel	44641	X
TTI Poland SP ZOO	100%	TTI, Inc.	Ul. 11 Listopada 21	Kwidzyn	Poland	PL-82500	X
TTI, Inc.	100%	TTI, Inc.	2441 Northeast Parkway	Fort Worth	TX	76106-1816	X
TTX Company	17.3%	BNSF Railway	101 N. Wacker Drive	Chicago	IL	60606	X
Tucker Safety Products, Inc.	100%	Marmon	2835 Janitell Road	Colorado Springs	CO	80906	X
Tuf-Lok Fasteners Pvt Limited	24%	Marmon	E-5, MIDC Gokul Shirgaon	Kolapur	Maharashtra, India	416234	X
Tugman Dialysis, LLC	17.95%	DaVita Healthcare	10241 Lewis and Clark Blvd	St. Louis	MO	63136	X
Tulsa Business & Legal News	100%	BH Media	524 South Main	Broken Arrow	OK	74012	X
Tulsa Dialysis, LLC	17.95%	DaVita Healthcare	9647 Ridgeview Street	Tulsa	OK	74131	X
Tulsa World Media Company	100%	BH Media	315 S. Boulder Avenue	Tulsa	OK	74103	X
Tumalo Dialysis, LLC	17.95%	DaVita Healthcare	3518 Knickerbocker Road	San Angelo	TX	76904	X
Tungaloy America, Inc.	100%	Iscar	1226A Michael Dr.	Wood Dale	IL	60191	X
Tungaloy Benelux B.V.	100%	Iscar	Tjalk 70	Bodegraven	Netherlands	2411NZ	X
Tungaloy Canada, Ltd.		Iscar	432 Elgin St.	Brantford	Ontario, Canada	N3S 7P7	X
Tungaloy Central Europe S.R.O.		Iscar	4D Center Building B 10F, Kodanska 46	Praha 10	Czech Republic	CZ-10100	X
Tungaloy Corporation	100%	Iscar	580 Horikawa-cho, Saiwai-ku	Kawasaki	Japan	212-8503	X
Tungaloy Cutting Tool (Shanghai) Co., Ltd.	100%	Iscar	United Plaza 1505, 1468 Nan Jing Road West	Shanghai	China	200040	X
Tungaloy Cutting Tool (Thailand) Co., Ltd.	100%	Iscar	Sukhumvit 63 Klongtonnue, Wattana	Bangkok	Thailand	10110	X
Tungaloy Czech SRO	100%	Iscar	Tuřanka 115	Brno	Czech Republic	CZ-627 00	X
Tungaloy de Mexico S.A.	100%	Iscar	Antonio de Alba Martin #113, Parque Industrial Siglo XX1	Aguascalientes	AGS, Mexico	20290	X
Tungaloy do Brazil Comercio DE Ferramentas DE Corte Ltda	100%	Iscar	Rua dos Sabias N.104	Vinhedo, Sao Paulo	Brazil	13280-000	X
Tungaloy Europe GmbH		Iscar	Elisabeth Selbert STR.3	Langenfeld	Germany	D-40764	X
Tungaloy France s.a.s.	100%	Iscar	6, Avenue des Andes	Courtaboeuf Cedex	France	F-91952	X
Tungaloy Friction Material Vietnam Ltd.	51%	Iscar	Quat Luu Commune, Binh Xuyen District	Vinh Phuc Province	Vietnam		X

BERKSHIRE HATHAWAY INC. (10% and greater)

Tungaloy Germany GMBH	100%	Iscar	Elisabeth-Selbert-Strasse 3	Langenfeld	Germany	D-40764	X
Tungaloy Hungary Kft	100%	Iscar	Erzsébet királyné útja 125	Budapest	Hungary	H-1142	X
Tungaloy Iberica, S.L.	51%	Iscar	Puigterra de Baix 5-9 1r	Manresa (BCN)	Spain	E-08241	X
Tungaloy India Private Limited	67%	Iscar	Compound, Trade World, Lower Parel (West)	Mumbai	India	4000 13	X
Tungaloy Italia S.r.l.	51%	Iscar	Via e. Andolfato, 10	Milano	Italy	I-20126	X
Tungaloy Kesici Takimlar Sanayi Ve Ticaret A.S.	51%	Iscar					X
Tungaloy Korea Ltd.	51.0099%	Iscar	Solid Square, 580 Horikawa-cho, Saiwai-ku	Kawasaki City	Japan	212-8503	X
Tungaloy Malaysia Sdn Bhd	70%	Iscar	50 K-2, Kelana Mall, Jalan SS6/14, Kelana Jaya, 47301	Petaling Jaya	Ehsan, Malaysia		X
Tungaloy Polska SP.z.o.o.	75%	Iscar	ul. Genewska 24	Warszawa	Poland	03-963	X
Tungaloy Rezni Alati d.o.o.	100%	Iscar			Croatia		X
Tungaloy Rus LLC	75%	Iscar	36-G Kostukova str.	Belgorod	Russia	308012	X
Tungaloy Scandinavia AB	59.988%	Iscar	St. Lawrence Road 42a	Lund	Sweden	22270	X
Tungaloy Taiwan Corporation	49%	Iscar	No. 24 Alley 3, Lane 246, Hsing Ming Road	Taipei	Taiwan		X
Tungaloy UK Limited	100%	Iscar	Woodgate Business Park, Bartley Green	Birmingham, West Midlands	UK	B32 3DE	X
Turlock Dialysis Center, LLC	17.95%	DaVita Healthcare	50 W Syracuse Avenue	Turlock	CA	95380	X
Tustin Dialysis Center, LLC	17.95%	DaVita Healthcare	2090 N Tustin Ave, Suite 100	Santa Ana	CA	92705	X
Tutorlink LLC		Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X
Twin Oaks at Stone Ridge, L.P.	98.99%	National Indemnity	228 Savannah Terrace	Wentzville	MO	63385	X
Twing-M ALC	51%	Iscar	3/2 Klumova Str	Minsk	Belarus	220009	X
TX Kennedy Apartments, LTD	98.99%	Affordable Housing	1101 E Kennedy	Beeville	TX	78104	X
TXFM Inc.	100%	Nebaska Furniture Mart	14801 Quorum Dr Ste 500	Dallas	TX	75254	X
TXVT Development, Inc.	100%	BH Auto	P.O. Box 16460	Phoenix	AZ	85011	X
TXVT LLC	81%	BH Auto	5031 N. Galloway Ave	Mesquite	TX	75150	X
Tyler Dialysis, LLC	17.95%	DaVita Healthcare	3716 Church Road	Mount Laurel	NJ	08054	X

BERKSHIRE HATHAWAY INC. (10% and greater)

U.O.P. S.P.A.	51%	Iscar	Guido Red Route16	Cellatica, Brescia	Italy	25060	X
U.S. Investment Corporation	100%	Berkshire Hathaway	190 S. Warner Rd., P.O. Box 6700	Wayne	PA	19087-2191	X
U.S. Liability Insurance Company		Berkshire Hathaway	190 S. Warner Rd., P.O. Box 6700	Wayne	PA	19087-2191	X
U.S. Underwriters Insurance Company	100%	Mount Vernon Fire	190 S. Warner Rd., P.O. Box 6700	Wayne	PA	19087-2191	X
UCFS Australia Pty. Ltd.	100%	Scott Fetzer	PO Box 1423	N Sydney	Australia	2059	X
UCFS Europe Company	100%	Scott Fetzer	Connections House	Biggleswade Bedfordshire	England	SG18 8AL	X
UH Senior Partnership II, L.P.	99.98%	National Indemnity	60 Piedmont Avenue	Atlanta	GA	30303	X
Ukiah Dialysis, LLC	17.95%	DaVita Healthcare	17191 St Lukes Way, Ste 100	The Woodlands	TX	77384	X
UMPAWAUG I Corporation	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
UMPAWAUG II Corporation	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
UMPAWAUG III Corporation	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
UMPAWAUG IV Corporation	14.65%	American Express	200 Vesey Street	New York	NY	10285	X
Unarco Industries LLC	100%	Marmon	400 S.E. 15th Street	Wagoner	OK	74467	X
Unarco Industries, Inc. (Jiashin)	100%	Marmon	No. 21 Chenggong Road	Jiashin	China		X
Unicoi Dialysis, LLC	17.95%	DaVita Healthcare	629 Cranbury Rd, Suite 101	East Brunswick	NJ	08816	X
Unified Supply Chain, Inc.	100%	Dairy Queen	7505 Metro Blvd.	Minneapolis	MN	55439	X
Uni-Form Components Co.	100%	Marmon	10703 Sheldon Road	Houston	TX	77044	X
Union City Homes, LP	99.99%	National Indemnity	221 Bolivar Street	Jefferson City	MO	65101	X
Union Holdings SA	100%	Fruit of the Loom					X
Union Sales, Inc.	100%	Fruit of the Loom	One Fruit of the Loom Drive	Bowling Green	KY	42103	X
Union Tank Car Company	100%	Marmon	175 West Jackson Blvd., 21st Floor	Chicago	IL	60604	X
Union Underwear Company, Inc.	100%	Fruit of the Loom	One Fruit of the Loom Drive	Bowling Green	KY	42103	X
Unione Italiana Reinsurance Company of America, Inc.	100%	National Indemnity	199 Water Street, 14th Floor	New York	NY	10005	X
Uniqfill Air B.V.	100%	CTB International	Kerkstraat 31	Meijel	Netherlands	NL-5768 BH	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Uniqfill International B.V.	100%	CTB International	Kerkstraat 31	Meijel	Netherlands	NL-5768 BH	X
Unitac Inc.	97.228%	Iscar	5, Shikashinmachi-3	Oomuta	Japan	837-0901	X
Unitac Kabushiki Kaisha	100%	Iscar			Japan		X
United Consumer Financial Services Company	100%	Scott Fetzer	865 Bassett Road	Westlake	OH	44145	X
United Direct Finance Inc.	100%	Scott Fetzer	28800 Clemens Road	Westlake	OH	44145	X
United States Aviation Underwriters, Inc.	100%	General Re	One Seaport Plaza, 199 Water Street	New York	NY	10038	X
United States Gypsum Company	29.95%	USG	550 W. Adams Street	Chicago	IL	60661	X
United States Liability Insurance Company	100%	Berkshire Hathaway	190 South Warner Road	Wayne	PA	19087	X
United Steel Products Company, Inc.		MiTek	14305 Southcross Drive W	Burnsville	MN	55306	X
Universal Risk Partners S.à.r.l.		General Re	11 Rue Beaumont	L-1219	Luxembourg	B 49.822	X
University Dialysis Center, LLC	17.95%	DaVita Healthcare	300 University Ave, Suite 103	Sacramento	CA	95825	X
UOP UK Ltd.	100%	Iscar	Woodgate Business Park 156 Clapgate Lane	Birmingham	UK	B32 3DE	X
Upper Valley Dialysis, L.P.	17.95%	DaVita Healthcare	7933 N Mesa Street, Suite H	El Paso	TX	79932	X
USC-DaVita Dialysis Center, LLC	17.95%	DaVita Healthcare	2310 Alcazar Street	Los Angeles	CA	90033	X
USG (U.K.) Ltd.	29.95%	USG	1 Swan Road, South West Industrial Estate	Peterlee	UK	SR8 2HS	X
USG Corporation	29.95%	USG	125 South Franklin Street	Chicago	IL	60606	X
USG Foreign Investments, Ltd.	29.95%	USG	125 S Franklin St	Chicago	IL	60606-4647	X
USG Holding de Mexico S.A. de C.V.	29.95%	USG	Paseo de Tamarindos No. 400-B 1Er. Piso	CIUDAD DE Mexiko	Mexico	5120	X
USG Interiors, LLC	29.95%	USG	125 S Franklin St	Chicago	IL	60606-4647	X
USG International, Ltd.	29.95%	USG	3301 NW 125th St	Miami	FL	33167	X
USG Latin America, LLC	29.95%	USG	1209 N Orange St.	Wilmington	DE	19801	X
USG Mexico S.A. de C.V.	29.95%	USG	Paseo de los Tamarindos No. 400-B, Piso 1	Bosques de las Lomas	Mexico		X
USG Netherlands Global Holdings B.V.	29.95%	USG	Muiderstraat 9	Amsterdam	Netherlands	1011PZ	X
USI-TOOLS S.P.R.L.		TaeguTec	Parc Industriel des Hauts-1st Ave Sarts 145	Herstal	Belgium	4040	X

BERKSHIRE HATHAWAY INC. (10% and greater)

USP Canada Inc.	100%	MiTek	221 Racco Parkway	Thornhill	Ontario, Canada	L4J 8X9	X
USP Lumber Connectors (<i>d/b/a for United Steel Products Company</i>)		MiTek	703 Rogers Dr.	Montgomery	MN	56069	X
USP Structural Connectors (<i>d/b/a for United Steel Products Company</i>)		MiTek	14305 Southcross Drive W	Burnsville	MN	55306	X
UT Southwestern DVA Healthcare, LLP	17.95%	DaVita Healthcare	3312 N Buckner Blvd	Dallas	TX	75228	X
UTLX China Manufacturing Company LLC	100%	Marmon					X
UTLX Company	100%	Marmon					X
UTLX Manufacturing LLC	100%	Marmon	6325 Highway 1	Alexandria	LA	71303-5337	X
UTLX Repair Services LLC		Marmon	175 West Jackson Blvd.	Chicago	IL	60604	X
UTLX Soporte Empresarial, S.A. de C.V.	100%	Marmon	Crt Celaya Rcon Tamayo S/N 8 5, Col. Parque Industrial	Celaya	Guanajuato Mexico		X
Uvet American Express Corporate Travel S.p.A.	14.65%	American Express	Via A. Binda 21	Milan	Italy	20143	X
V. T. Motors, LLC	71%	BH Auto	1550 E. Missouri Ave. Ste 300	Phoenix	AZ	85014	X
Valley Springs Dialysis, LLC	17.95%	DaVita Healthcare	1510 West Warm Springs Road	Henderson	NV	89014	X
Van Buick GM (<i>d/b/a for V. T. Motors, LLC</i>)	71%	BH Auto	8585 E. Frank Lloyd Wright Blvd.	Scottsdale	AZ	85260	X
Van Chevrolet (<i>d/b/a for V.T. Motors, LLC</i>)	71%	BH Auto	8585 E Frank Lloyd Wright	Scottsdale	AZ	85260	X
Van Chevrolet-Cadillac (<i>d/b/a for Van Chevrolet-Cadillac, LLC</i>)	96%	BH Auto	100 NW Vivion Rd	Kansas City	MO	64118	X
Van Chevrolet-Cadillac, LLC	96%	BH Auto	100 NW Vivion Rd	Kansas City	MO	64118	X
Van Enterprises, Inc.	100%	BH Auto	8500 Shawnee Mission Pkwy	Shawnee Mission	KS	66202	X
Van Hyundai II, LLC <i>d/b/a Van Hyundai</i>	96%	BH Auto	1301 South I-35 East	Carrollton	TX	75006	X
Van Subaru (<i>d/b/a for Van Chevrolet-Cadillac, LLC</i>)	96%	BH Auto	90 NW Vivion Rd.	Kansas City	MO	64118	X
Van Tuyl Group, LLC	100%	BH Auto	8333 Royal Ridge Pkwy #130	Irving	TX	75063	X
Van Tuyl Marketing (<i>d/b/a for Auto Media, LLC</i>)	100%	BH Auto	1550 E. Missouri Avenue	Phoenix	AZ	75014	X
Vanderbilt ABS Corp.	100%	Clayton Homes	9 East Lockerman St.	Dover	DE	19901	X
Vanderbilt Life and Casualty Insurance Co., LTD		Clayton Homes	P.O. Box 4098	Maryville	TN	37802	X
Vanderbilt Mortgage and Finance, Inc.	100%	Clayton Homes	P.O. Box 4098	Maryville	TN	37802	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Vanderbilt Property and Casualty Insurance Co., LTD	100%	Clayton Homes	P.O. Box 4098	Maryville	TN	37802	X
Vanderbilt SPC, Inc.	100%	Clayton Homes	1110 N. Market St., Ste. 1300	Wilmington	DE	19801	X
Vandergriff Acura (d/b/a for Artex Automotive Sales II, LLC)	86%	BH Auto	1100 W I-20	Arlington	TX	76017	X
Vandergriff Automotive II LLC	81%	BH Auto	1000 W I-20	Arlington	TX	76017	X
Vandergriff Chevrolet II, LLC d/b/a Vandergriff Chevrolet	81%	BH Auto	1200 W I-20	Arlington	TX	76017	X
Vandergriff Honda (d/b/a for Luke Motor Company II, LLC)	81%	BH Auto	1104 W I-20	Arlington	TX	76017	X
Vandergriff Hyundai II, LLC d/b/a Vandergriff Hyundai	81%	BH Auto	1120 W I-20	Arlington	TX	76017	X
Vandergriff Scion		BH Auto	1000 W I-20	Arlington	TX	76017	X
Vandergriff Toyota (d/b/a for Vandergriff Automotive II LLC)	81%	BH Auto	1000 W I-20	Arlington	TX	76017	X
Vanity Fair Brands, Inc.		Fruit of the Loom	3025 Windward Plaza	Alpharetta	GA	30005	X
Vanity Fair Brands, LP	100%	Fruit of the Loom	One Fruit of the Loom Drive	Bowling Green	KY	42103	X
Vanity Fair Inc.	100%	Fruit of the Loom	3411 Silverside Road, 200 Hanby Bldg.	Wilmington	DE		X
Vanity Fair Ventures, Inc.		Fruit of the Loom	3025 Windward Plaza	Alpharetta	GA	30005	X
Vantage Reinsurance, LLC		BH Auto		Merriam	KS		X
Vantix Logistics Ltd.		McLane	2085 Midway Road	Carrollton	TX	75006	X
Venatun, S.A.	26.86%	Kraft Heinz	El Rosal	Distrito Capital, Caracas	Venezuela		
vente-privee USA, LLC	14.65%	American Express	One Liberty Plaza	New York	NY	10006	X
Verde Dialysis, LLC	17.95%	DaVita Healthcare	150 Brooks Way, Suite 15	Brooks	KY	40109	X
VeriSign Colombia SAS	11.11%	VeriSign Inc.	Av 82 No 10 62 P 5	Bogota	Colombia		X
VeriSign Deutschland GmbH	11.11%	VeriSign Inc.	Gustav-Stresemann-Ring 1	Wiesbaden	Germany	65189	X
VeriSign Digital Services Technology (China) Co. Ltd.	11.11%	VeriSign Inc.	No.1401, CYTS Plaza No.5 Dongzhimen South Ave.	Dongcheng District, Beijing	China	100007	X
VeriSign do Brasil Servicos para Internet Ltda	11.11%	VeriSign Inc.	Avenida das Nações Unidas, 14171, 15 and Parte, Vila Almeida	Sao Paulo	Brazil		X
VeriSign Holdings Limited	11.11%	VeriSign Inc.			Cayman Islands		X
VeriSign Inc.	11.11%	VeriSign Inc.	12061 Bluemont Way	Reston	VA	20190	X

BERKSHIRE HATHAWAY INC. (10% and greater)

VeriSign India Private Limited	11.11%	VeriSign Inc.	Industrial Layout Corporation Ward No.68	Bangalore, Karnataka	India	560034	X
VeriSign International Holdings, Inc.	11.11%	VeriSign Inc.					X
VeriSign Internet Services Sarl	11.11%	VeriSign Inc.	Rue des Pilettes 3	Fribourg	Switzerland	CH-1705	X
VeriSign Internet Technology Services (Beijing) Co., Ltd.	11.11%	VeriSign Inc.			China		X
VeriSign Israel Ltd.	11.11%	VeriSign Inc.	11 Hasadna	Raanana	Israel		X
VeriSign Naming and Directory Services, LLC	11.11%	VeriSign Inc.	21345 Ridgetop Circle	Dulles	VA	20166	X
VeriSign Netherlands B.V.	11.11%	VeriSign Inc.	Weena 327	Rotterdam	Netherlands		X
VeriSign Reinsurance Company, Ltd.	11.11%	VeriSign Inc.	Victoria Hall 11, Victoria Street	Hamilton	Bermuda	HM 11	X
VeriSign Sarl	11.11%	VeriSign Inc.	Route des Arsenaux 41	Fribourg	Switzerland	1705	X
VeriSign Services India Private Limited	11.11%	VeriSign Inc.	Industrial Layout Corporation Ward No.68	Bangalore, Karnataka	India	560034	X
VeriSign Spain S.L.	11.11%	VeriSign Inc.	Serrano 240, 5ª planta	Madrid	Spain	28016	X
VeriSign Switzerland SA	11.11%	VeriSign Inc.	8, Chemin de Blandonnet	Vernier	Switzerland	1214	X
Vertis Insurance Group, Inc.	100%	Forest River, Inc.			FL		X
Vesey Limited	14.65%	American Express	29 Larcom Street	London	England	SE17 1NJ	X
Vesta Funding, Inc.	100%	Lubrizol	9900 South 57th Street	Franklin	WI	53132	X
Vesta Intermediate Funding, Inc.	100%	Lubrizol	9900 South 57th Street	Franklin	WI	53132	X
VFB France Investments, SAS	100%	Fruit of the Loom	53 Boulevard Paul Langevin	Fontaine, Isere	France	38600	X
VFB Lingerie Benelux S.P.R.L.	100%	Fruit of the Loom	Kleine Weg 239B	Roeselare	Belgium	8800	X
VFB Lingerie Europe, SA	100%	Fruit of the Loom	Plaza Europa, 22-24, Floor 3	L'Hospitalet de Llobregat	Barcelona, Spain	8902	X
VFB Lingerie Germany GmbH	100%	Fruit of the Loom	Weinheimer Str. 58	Mannheim	Germany	68309	X
VFB Lingerie Italia SRL	100%	Fruit of the Loom	Via General Cantore, 26	Cardano Al Campo (VA)	Italy	21010	X
VFB Lingerie Portugal, LDA.	100%	Fruit of the Loom	Rose Street, 51-Bairro das Portelas-Abuxarda	Alcabideche	Portugal	2755-091	X
VFB Lingerie S.A.	99.99%	Fruit of the Loom	55 Boulevard Paul Langevin	Fontaine, Isere	France	38600	X
VFB Lingerie Spain SA	100%	Fruit of the Loom	AV Barcelona 103	Igualada Barcelona	Spain		X

BERKSHIRE HATHAWAY INC. (10% and greater)

VFB Lingerie Tunisia SARL	99.67%	Fruit of the Loom		Tunis	Tunisia		X
VFB Lingerie Tunisie	99.93%	Fruit of the Loom	Z.I. Sidi Abdelhamid, Sousse IBN	Khaldoun	Tunisia	4061	X
VFB Lingerie UK Limited	100%	Fruit of the Loom	Halesfield 10G	Telford, Shropshire	UK	TF74QP	X
VF-Diltex, S. de R.L. de C.V.	51%	Fruit of the Loom	Avenida 125-A, Naucalpan De Juárez	Mexico City	Mexico	53510	X
VFI Credit Corp.		Fruit of the Loom	3411 Silverside Road	Wilmington	DE	19810-4812	X
VFI de Honduras, S.A.	100%	Fruit of the Loom	Zip Choloma, Col. la Mora, Choloma - N/A	Cortés	Honduras		X
VFI-Mexico, Inc.	100%	Fruit of the Loom		Wilmington	DE		X
Vgas 1 Dcatur LLC	99.99%	Affordable Housing		Las Vegas	NV		X
Vict. Th. Engwall LLC	26.86%	Kraft Heinz	Three Lakes Drive	Northfield	IL	60093	X
Victory Dialysis, LLC	17.95%	DaVita Healthcare	6934 Aviation Blvd, Suites J-K-L-M	Glen Burnie	MD	21061	X
Village Pointe Scion (d/b/a for TOHVT Motors, LLC)	96%	BH Auto	18201 Cuming Street	Elkhorn	NE	68022	X
Village Pointe Toyota (d/b/a for TOHVT Motors, LLC)	96%	BH Auto	18201 Cuming Street	Elkhorn	NE	68022	X
VillageHealth DM, LLC	17.95%	DaVita Healthcare	Three Hawthorn Pkwy, Ste 410	Vernon Hills	IL	60061	X
Villanueva Dialysis, LLC	17.95%	DaVita Healthcare	17207 Jasmine Street	Victorville	CA	92395	X
Vimodrone Property S.r.l.	100%	Marmon		Milano	Italy		X
Virginia Paint Company, Incorporated		Benjamin Moore	3321 West Broad Street	Richmond	VA	23230	X
Visilinx, Inc.	100%	McLane	4747 McLane Parkway	Temple	TX	76504	
Vision Retailing Inc.	100%	HH Brown	8 Hampshire Drive	Hudson	NH	03051	X
Vives Vidal Confeccoes, LDA		Fruit of the Loom	Ave. of the Mills, 14-B, The Shop - Apartado 7532 - Alfragide	Lisbon	Portugal	2610-120	X
Vives Vidal, Vivesa S.A.		Fruit of the Loom	C/Lleida 53, Apartado 132	Igualada	Spain		X
VNDR Development, Inc.	100%	BH Auto	P.O. Box 16460	Phoenix	AZ	85011	X
VODVT Motors LLC	71%	BH Auto	2705 N. Central Expy.	Plano	TX	75075	X
Volvo of Dallas (d/b/a for VODVT Motors LLC)	71%	BH Auto	2705 N. Central Expy.	Plano	TX	75075	X
Volvo of Phoenix (d/b/a for VOP Motors, LLC)	93%	BH Auto	2205 W Bell Road	Phoenix	AZ	85023	X

BERKSHIRE HATHAWAY INC. (10% and greater)

VOP Motors, LLC	93%	BH Auto	1550 E. Missouri #300	Phoenix	AZ	85014	X
VT Insurance Acquisition Sub Inc.	100%	Berkshire Hathaway					X
VT Real Estate Acquisition Sub Inc.	100%	Berkshire Hathaway					X
Wabash Valley Supply (<i>d/b/a for L&W Supply Corporation</i>)	29.95%	USG	2119 S. 3rd Street	Terra Haute	IN	47802	X
Waco Media Company, Inc.	100%	BH Media	6719 S. 93rd Street	Omaha	NE	68127	X
Waco Tribune-Herald	100%	BH Media	900 Franklin Avenue	Waco	TX	76701	X
Wagoner Tribune	100%	BH Media	221 E. Cherokee	Wagoner	OK	74467	X
Wahoo Newspaper (<i>d/b/a for Suburban Newspapers, Inc.</i>)	100%	BH Media	564 North Broadway	Wahoo	NE	68066	X
Wakoni Dialysis, LLC	17.95%	DaVita Healthcare	4700 Springboro Pike Ste A	Moraine	OH	45439	X
Walker Dialysis, LLC	17.95%	DaVita Healthcare	1663 Industrial Park W	Hayward	CA	94544	X
Wallowa Dialysis, LLC	17.95%	DaVita Healthcare	2150 W 4th Street	Ontario	OH	44906	X
Walterboro Veneer Company, Inc.		Shaw	303 Green Pond Hwy.	Walterboro	SC	29488-4607	X
WAMET (Demetriades) Ltd.		Iscar	Wamet Bldg, 79 Eyleneja Ave. PO Box 20515	Nicosia	Cyprus		X
Warwick Chemicals Ltd.	100%	Lubrizol		Mostyn, Holywell, Flintshire	UK	CH8 9HE	X
Warwick Chemicals USA Inc.	100%	Lubrizol	12084 Lake Cypress Circle	Orlando	FL	32828	X
Warwick Equest Limited	100%	Lubrizol	Unit 55, Consett Business Park	Consett, County Durham	UK	DH8 6BN	X
Warwick Intermediate Limited	100%	Lubrizol	The Knowle Nether Lane	Hazelwood, Derby	UK	DE56 4AN	X
Warwick International do Brasil Ltda.	100%	Lubrizol	RUA TRES 399 TERREO District: D. IND. JOAO NAREZZ	Sao Paulo	Brazil	13347-406	X
Warwick International Group Limited	100%	Lubrizol		Mostyn, Holywell, Flintshire	UK	CH8 9HE	X
Warwick International Holdings EBT Limited	100%	Lubrizol	The Knowle Nether Lane	Hazelwood, Derby	UK	DE56 4AN	X
Warwick International Holdings Limited	100%	Lubrizol	The Knowle Nether Lane	Hazelwood, Derby	UK	DE56 4AN	X
Warwick International Intermediate Holdings Limited	100%	Lubrizol	The Knowle Nether Lane	Hazelwood, Derby	UK	DE56 4AN	X
Warwick International Limited	100%	Lubrizol	The Knowle Nether Lane	Hazelwood, Derby	UK	DE56 4AN	X
Washington County News	100%	BH Media	P.O. Box 399	Abingdon	VA	24212	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Wausau Brick & Gypsum (d/b/a for L&W Supply Corporation)	29.95%	USG	739 Washington Street	Wausau	WI	54403	X
Wauseon Dialysis, LLC	17.95%	DaVita Healthcare	721 S Shoop Avenue	Wauseon	OH	43567	X
Wayne Combustion Systems (d/b/a for Scott Fetzer Company)	100%	Scott Fetzer	801 Glasgow Avenue	Fort Wayne	IN	46803	X
Wayne Water Systems (d/b/a for Scott Fetzer Company)	100%	Scott Fetzer	101 Production Drive	Harrison	OH	45030	X
Wayne/Scott Fetzer Company	100%	Scott Fetzer	101 Production Drive	Harrison	OH	45030	X
WC-GMC, Limited Partnership	99.99%	National Indemnity	5600 Hazel Road	Bartlesville	OK	74006	X
Webb Wheel Products, Inc.	100%	Marmon	2310 Industrial Drive S.W.	Cullman	AL	35055	X
Weishida (Nanjing) Foods Co. Ltd.	26.86%	Kraft Heinz	68, Feinikesi Road, Developing Zone	Jiangning, Nanjing	China	211100	X
Wells Lamont Europe Industry		Marmon	11 bis, avenue du General Mazillier, B.P. 108	Semur-en-Auxois	France	21140	X
Wells Lamont Industrial, LLC	100%	Marmon	6640 West Touhy Ave.	Niles	IL	60714	X
Wells Lamont Industry Group LLC	100%	Marmon	6640 West Touhy Ave.	Niles	IL	60714	X
Wells Lamont LLC	100%	Marmon	6640 W. Touhy Ave.	Niles	IL	60714	X
Wells Lamont Retail Safety Products LLC	100%	Marmon	6640 W. Touhy Ave.	Niles	IL	60714	X
Wenco Finance, Inc.		Clayton Homes	Highway 41 N	Addison	AL	35540	X
Wertsam Technology, S.L.	50%	Iscar	Cerdanyola del Valles	Barcelona	Spain		X
Wesley Chapel Dialysis, LLC	17.95%	DaVita Healthcare	2255 Green Hedges Way	Wesley Chapel	FL	33544	X
West Elk Grove Dialysis, LLC	17.95%	DaVita Healthcare	2208 Kausen Dr Suite 100	Elk Grove	CA	95758	X
West Sacramento Dialysis, LLC	17.95%	DaVita Healthcare	3450 Industrial Blvd, Suite 100	West Sacramento	CA	95691	X
Western Builders Supply, Inc.	100%	Marmon	1510 Montana Avenue	Billings	MT		X
Western Enterprises, Inc.		Scott Fetzer	875 Bassett Road	Westlake	OH	44145	X
Western Fruit Express Company	100%	BNSF Railway	12400 51st PI S	Seattle	WA	98178	X
Western Iowa Newspapers, Inc.	100%	BH Media	535 W Broadway, Suite 300	Council Bluffs	IA	51503	X
Western Nebraska Newspapers, Inc.	100%	BH Media	1314 Douglas St, Suite 1500	Omaha	NE	68102	X
Western/Scott Fetzer Company	100%	Scott Fetzer	875 Bassett Road	Westlake	OH	44145	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Westgate Senior Limited Dividend Housing Association, LLC	99.99%	National Indemnity	601 Abbot Road	East Lansing	MI	48823	X
WestGUARD Insurance Company	100%	National Indemnity	16 South River Street	Wilkes-Barre	PA	18702	X
Weston Dialysis Center, LLC	17.95%	DaVita Healthcare	2685 Executive Park Dr, Suite 1	Weston	FL	33331	X
Westrim Products (France d/b/a Westrim Products)	100%	Scott Fetzer	2268 Fairview Blvd	Fairview	TN	37062	X
WesTTex 66 Pipeline Company	11.4%	Phillips 66	600 North Dairy Ashford	Houston	TX	77079	X
Westway Ford (d/b/a for Irvtex Automotive Sales II, LLC)	81%	BH Auto	801 W. Airport Freeway	Irving	TX	75062	X
Weviera Industrial, S.A.	26.86%	Kraft Heinz			Venezuela		
Wexford LLC	26.86%	Kraft Heinz		Pittsburgh	PA		
Whacking Industry Co., Ltd.		TaeguTec	No. 56, Ming-Tai St. Ku-Shan District	Kaohsiung 807	Taiwan		X
Whitby Decorating Centre Inc.		Benjamin Moore	605 Brock St. North, Unit 11	Whitby	ON	L1N 8R2	X
Whiteley Investments, Ltd.	11.11%	VeriSign Inc.			UK		X
Whitney Dialysis, LLC	17.95%	DaVita Healthcare	5442 Saint Barnabas Road	Oxon Hill	MD	20745	X
Whittaker Clark & Daniels, Inc.	100%	National Indemnity	1000 Coolidge Street	South Plainfield	NJ	07080	X
Wichita Terminal Association		BNSF Railway	1537 North Barwise Street	Wichita	KS	67214	X
Wilder Dialysis, LLC	17.95%	DaVita Healthcare	1501 Milstead Rd NE, Suite 150	Conyers	GA	30012	X
Willowbrook Dialysis Center, L.P.	17.95%	DaVita Healthcare	12120 Jones Road	Houston	TX	77070	X
Wimbledon Properties, LLC	100%	Clayton Homes	5000 Clayton Road	Maryville	TN	37804	X
Wimbledon Realty, LLC	100%	Clayton Homes	5000 Clayton Road	Maryville	TN	37804	X
Windcreek Dialysis, LLC	17.95%	DaVita Healthcare	1605 E Peoria Street	Paola	KS	66071	X
Winds Dialysis, LLC	17.95%	DaVita Healthcare	5036 Tennyson Parkway	Plano	TX	75024	X
Winfield Yarn Mill, Inc.		Fruit of the Loom	135 Mallard Road	Winfield	AL	35594	X
Winston-Salem Journal	100%	BH Media	418 N. Marshall St.	Winston-Salem	NC	27103	X
Winston-Salem Monthly	100%	BH Media	418 N. Marshall St.	Winston-Salem	NC	27103	X
Wisconsin Drywall Dist. (d/b/a for L&W Supply Corporation)	29.95%	USG	4701 McFarland Court	McFarland	WI	53558	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Wittig Beteiligung Gmbh	100%	TTI, Inc.	Hans-Bornkessel-Straße 45	Fürth	Germany	90763	X
WMC Corp.			567 W. 207th Street	New York	NY	10034	X
Wood Dialysis, LLC	17.95%	DaVita Healthcare	20320 Northwest Fwy, Ste 100	Jersey Village	TX	77065	X
Woodbury Oakwood Urban Renewal Preservation, LP	99.99%	National Indemnity		Woodbury	NJ		X
Woodland Housing LLLP	99.99%	Affordable Housing	7539 Front St NW	Walker	MN	56484	X
Wooten Dialysis, LLC	17.95%	DaVita Healthcare	419 Village Drive, Suite 10	Carlisle	PA	17015	X
World Book Encyclopedia, Inc.	100%	Scott Fetzer	233 North Michigan Ave., Suite 2000	Chicago	IL	60601	X
World Book India Private Limited	100%	Scott Fetzer	419, Tower B, DLF Towers Jasola, Jasola District Center	New Delhi	India	110025	X
World Book, Inc.	100%	Scott Fetzer	233 North Michigan Ave., Suite 2000	Chicago	IL	60601	X
World Book/Scott Fetzer Company, Inc.	100%	Scott Fetzer	233 North Michigan Ave., Suite 2000	Chicago	IL	60601	X
World Investments, Inc.	100%	BH Media	1314 Douglas St., Suite 1500	Omaha	NE	68102	X
World Media Enterprises Inc.	100%	BH Media	1314 Douglas St., Suite 1500	Omaha	NE	68102	X
World Real Estate Management, LLC	100%	BH Media	1314 Douglas St., Suite 1500	Omaha	NE	68102	X
Worldbook.com Inc.	100%	Scott Fetzer	233 North Michigan Ave., Suite 2000	Chicago	IL	60601	X
Worldwide Containers, Inc.	100%	Marmon	175 W Jackson Blvd	Chicago	IL	60604	X
WP-GMC, Limited Partnership	99.99%	National Indemnity	398060 West 2200 Road	Bartlesville	OK	74006	X
WPLG, Inc.	100%	BH Media	3401 West Hallandale Beach	Pembroke Park	FL	33023	X
WPLG-TV	100%	BH Media	3401 West Hallandale Beach	Pembroke Park	FL	33023	X
WW Foods, LLC (50% thru H. J. Heinz Company)	13.43%	Kraft Heinz	2541 N. Stokesberry Place, Suite 100	Meridian	ID	83642	X
Wyandotte Central Dialysis, LLC	17.95%	DaVita Healthcare	3737 State Avenue	Kansas City	KS	66102	X
Wyler Dialysis, LLC	17.95%	DaVita Healthcare	309 E Graham Avenue	Pryor	OK	74361	X
Wyoming Transportation Group, L.L.C.		BNSF Railway	2500 Lou Meak Drive	Fort Worth	TX	76131	X
Wythe County Marketplace	100%	BH Media		Bristol	VA		X
Wytheville Enterprise	100%	BH Media	460 West Main Street	Wytheville	VA	24382	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Xiamen Honglu Tungsten Molybdenum Industry Ltd.	30%	Iscar	No. 339 Liansheng Road Jimei North Industrial District	Xiamen	China	361021	X
X-L-CO., Inc.	100%	XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	
XLI, Inc.		XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	
XTR, Inc.		XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	
XTRA Chassis, Inc.		XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	X
XTRA Companies, Inc.	100%	XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	X
XTRA Corporation	100%	XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	X
XTRA Finance Corporation	100%	XTRA Corporation	1440 Kiewitt Plaza	Omaha	NE	68131	
XTRA Intermodal, Inc.	100%	XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	
XTRA International Pacific, LTD.		XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	
XTRA International, LTD.		XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	X
XTRA Lease LLC	100%	XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	X
XTRA LLC	100%	XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	X
XTRA, Inc.		XTRA Corporation	1801 Park 270 Drive, Suite 400	St. Louis	MO	63146-4037	X
Yan Agro Logic (1988) Ltd.	60%	CTB International		Netanya	Israel		X
Yargol Dialysis, LLC	17.95%	DaVita Healthcare	7220 Cypress Gardens Blvd	Winter Haven	FL	33884	X
Ybor City Dialysis, LLC	17.95%	DaVita Healthcare	4204 N MacDill Ave, Suite 1B, North Building	Tampa	FL	33607	X
York News-Times (d/b/a for York Publishing Company, Inc.)	100%	BH Media	327 Platte Avenue	York	NE	68467	X
York Publishing Company, Inc.	100%	BH Media	327 Platte Avenue	York	NE	68467	X
Yucaipa Dialysis, LLC	17.95%	DaVita Healthcare	33487 Yucaipa Blvd	Yucaipa	CA	92399	X
Zaghuan Textile, S.A.	82.8%	Fruit of the Loom	Z.I.	Zaghuan	Tunisia	1100	X
Zak Products II, LLC	81%	BH Auto	8333 Royal Ridge Pkwy #100	Irving	TX	75063	X
ZAO "American Express International Services"	14.65%	American Express		Moscow	Russia		X
Zechman Supply (d/b/a for L&W Supply Corporation)	29.95%	USG	430 N. Damen Avenue	Chicago	IL	60622	X

BERKSHIRE HATHAWAY INC. (10% and greater)

Zephyrhills Dialysis Center, LLC	17.95%	DaVita Healthcare	6610 Stadium Drive	Zephyrhills	FL	33542	X
Zickgraf Hardwood Flooring Company, LLC	100%	Shaw	P.O. Box 1149	Franklin	NC	28744	X
Zurim Tools Limited	51%	Iskar	P.O.B. 9027, Industrial Zone	Nahariya	Israel	22311	X

EXHIBIT B

**BERKSHIRE HATHAWAY ENERGY COMPANY
NON-PUBLIC-UTILITY COMPANY SUBSIDIARIES**

See attached

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

Company	%	Related Comp	Street	City	State/Country	Zip	Active
AC Solar Holdings LLC	49%	BHE	1850 N Central Ave	Phoenix	AZ	85004	X
Agua Caliente Solar Holdings LLC	49%	BHE	67500 Palomas Road	Dateland	AZ	85333	X
Agua Caliente Solar, LLC	49%	BHE	67500 Palomas Road	Dateland	AZ	85333	X
Alaska Gas Pipeline Company, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Alaska Gas Transmission Company, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Alaska Storage Holding Company, LLC	26.5%	BHE	1411 Third Street, Suite A	Port Huron	MI	48060	X
AltaLink Holdings, L.P.	100%	BHE	2611 - 3rd Avenue S.E.	Calgary	Alberta, Canada	T2A 7W7	X
AltaLink Investment Management Ltd.	100%	BHE	2611 - 3rd Avenue S.E.	Calgary	Alberta, Canada	T2A 7W7	X
AltaLink Investments, L.P.	100%	BHE	2611 - 3rd Avenue S.E.	Calgary	Alberta, Canada	T2A 7W7	X
AltaLink Management Ltd.	100%	BHE	2611 - 3rd Avenue S.E.	Calgary	Alberta, Canada	T2A 7W7	X
AltaLink Ontario Management Ltd.	100%	BHE	2611 - 3rd Avenue S.E.	Calgary	Alberta, Canada	T2A 7W7	X
AltaLink Ontario, L.P.	100%	BHE	2611 - 3rd Avenue S.E.	Calgary	Alberta, Canada	T2A 7W7	X
AltaLink, L.P.	100%	BHE	2611 - 3rd Avenue S.E.	Calgary	Alberta, Canada	T2A 7W7	X
Arizona Home Services, L.L.C.	100%	HomeServices	900 E. River Road, Suite 100	Tuscon	AZ	85718	X
Avonmouth CHP Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Baltic Gas Sp. z.o.o.	50%	BHE	Stary Dwór 9 Street	Gdansk	Poland	80-958	X
Baltic Gas Sp. z.o.o. i wspólnicy sp. k.	49%	BHE	Stary Dwór 9 Street	Gdansk	Poland	80-958	X
Berkshire Hathaway Energy Company	89.85%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Berkshire Hathaway Energy Foundation		BHE	666 Grand Avenue	Des Moines	IA	50309	
Berkshire Hathaway HomeServices California Properties (d/b/a for Pickford Real Estate, Inc. and Pickford Realty, Ltd.)	100%	HomeServices	12544 High Bluff Dr., Ste 420	San Diego	CA	92130	X
Berkshire Hathaway HomeServices Carolinas (d/b/a for Preferred Carolinas Realty)	100%	HomeServices	110 Oakwood Drive, Suite 110	Winston Salem	NC	27103	X
Berkshire Hathaway HomeServices Carolinas Realty (d/b/a for Preferred Carolinas Realty)	100%	HomeServices	110 Oakwood Drive, Suite 110	Winston Salem	NC	27103	X
Berkshire Hathaway HomeServices First Realty (d/b/a for First Realty)	100%	HomeServices	3501 Westown Parkway	West Des Moines	IA	50266	X
Berkshire Hathaway HomeServices Fox & Roach, REALTORS (d/b/a for Fox & Roach LP)	100%	HomeServices	431 W. Lancaster Avenue	Devon	PA	19333	X
Berkshire Hathaway HomeServices Georgia Properties (d/b/a for HSGA Real Estate Group, L.L.C.)	100%	HomeServices	863 Holcomb Bridge Road	Roswell	GA	30076	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

Berkshire Hathaway HomeServices Kansas City Realty (owned by BHH KC Real Estate, LLC)	100%	HomeServices	120 South Central Avenue	Clayton	MO	63105	X
Berkshire Hathaway HomeServices KoenigRubloff Realty Group (d/b/a for HomeServices of Illinois)	100%	HomeServices	4709 West Golf Road, Ste 1100	Skokie	IL	60076	X
Berkshire Hathaway HomeServices New England Properties (owned by CTRE, L.L.C.)	100%	HomeServices	860 North Main Street	Wallingford	CT	06492	X
Berkshire Hathaway HomeServices New Jersey Properties (d/b/a for PNJP, LLC)	17.5%	HomeServices	220 Davidson Avenue	Somerset	NJ	08873	X
Berkshire Hathaway HomeServices Northwest Real Estate (owned by HomeServices of Washington)	100%	HomeServices	4700 42nd Ave SW, #600	Seattle	WA	98116	X
Berkshire Hathaway HomeServices York Simpson Underwood Realty (owned by Preferred Carolinas Realty)	100%	HomeServices	110 Oakwood Drive, Suite 110	Winston Salem	NC	27103	X
Berkshire Hathaway HomeServices Yost and Little Realty (owned by Preferred Carolinas Realty)	100%	HomeServices	110 Oakwood Drive, Suite 110	Winston Salem	NC	27103	X
Berkshire Hathaway HomeServices, LLC (d/b/a for BHH Affiliates, LLC)	100%	HomeServices	18500 Von Karman Avenue, Ste 400	Irvine	CA	92612	X
BG Energy Holding LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE AC Holding, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE Alberta Ltd.	100%	BHE	2611 - 3rd Avenue S.E.	Calgary	Alberta, Canada	T2A 7W7	X
BHE AltaLink Ltd.	100%	BHE	2611 - 3rd Avenue S.E.	Calgary	Alberta, Canada	T2A 7W7	X
BHE America Transco, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE Canada (BC) Holdings Corporation	100%	BHE	2900 - 550 Burrard Street	Vancouver	British Columbia Canada	V6C 0A3	X
BHE Canada Holdings Corporation	100%	BHE	2611 - 3rd Avenue S.E.	Calgary	Alberta, Canada	T2A 7W7	X
BHE Canada, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE Geothermal, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE GP Holdings Ltd.	100%	BHE	2611 - 3rd Avenue S.E.	Calgary	Alberta, Canada	T2A 7W7	X
BHE Hydro, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE Midcontinent Transmission Holdings, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE Renewables International GP Corporation	100%	BHE	2900 - 550 Burrard Street	Vancouver	British Columbia Canada	V6C 0A3	X
BHE Renewables International Limited Partnership	100%	BHE	2900 - 550 Burrard Street	Vancouver	British Columbia Canada	V6C 0A3	X
BHE Renewables, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

BHE Solar Holdings, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	
BHE Solar, LLC	100%	BHE	1850 N Central Ave	Phoenix	AZ	85004	X
BHE Southwest Transmission Holdings, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE Texas Transco, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE U.K. Electric, Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE U.K. Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE U.K. Power, Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE U.S. Transmission, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHE Wind, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BHH Affiliates, LLC	100%	HomeServices	18500 Von Karman Avenue, Ste 400	Irvine	CA	92612	X
BHH KC Real Estate, LLC	100%	HomeServices	11601 Granada	Leawood	KS	66211	X
Big Spring Pipeline Company	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	
Bishop Hill Energy II LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Bishop Hill II Holdings, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Bishop Hill Interconnection LLC	50%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Black Rock 1, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Black Rock 2, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Black Rock 3, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Black Rock 4, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Black Rock 5, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Black Rock 6, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
BRER Affiliates LLC	100%	HomeServices	18500 Von Karman Avenue, Ste 400	Irvine	CA	92612	X
BRER Real Estate Services Company LLC	100%	HomeServices	18500 Von Karman Avenue, Ste 400	Irvine	CA	92612	X
BRER Referral Services LLC	100%	HomeServices	18500 Von Karman Avenue, Ste 400	Irvine	CA	92612	X
Bridger Coal Company	66.67%	BHE	1407 West North Temple, Room 320	Salt Lake City	UT	84116	X
Broken Bow Wind II Holdings, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	
CalEnergy Company, Inc.	100%	BHE	302 South 36th St., Suite 400	Omaha	NE	68131	
CalEnergy Gas (Holdings) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
CalEnergy Gas Limited	100%	BHE	Peer House, 8-14 Verulam St	London	England	WC1X 8LZ	X
CalEnergy Generation Operating Company	100%	BHE	302 South 36th St., Suite 400	Omaha	NE	68131	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

CalEnergy Geothermal Holding, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CalEnergy International Ltd.	100%	BHE	24th Floor, 6750 Building 6750 Ayala Avenue	Makati City	Metro Manila, Philippines	1266	
CalEnergy International Services, Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CalEnergy International Services, Inc. – ROHQ	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CalEnergy Investments C.V.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CalEnergy Minerals LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CalEnergy Operating Corporation	100%	BHE	7030 Gentry Road	Calipatria	CA	92233	X
CalEnergy Pacific Holdings Corp.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CalEnergy Resources (Australia) Limited	100%	BHE	Peer House, 8-14 Verulam St	London	England	WC1X 8LZ	X
CalEnergy Resources Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
CalEnergy Resources Poland Sp. z.o.o.	100%	BHE	Al.Wilanowska, 2066 app. 19	Warsaw	Poland	02-765	X
CalEnergy, LLC	100%	BHE	1111 South 103rd Street	Omaha	NE	68124	X
California Energy Development Corporation	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
California Energy Management Company	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	
California Energy Yuma Corporation	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
California Title Company	63.7%	HomeService s	2365 Northside Drive, Ste 250	San Diego	CA	92108	X
California Utility HoldCo, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Capitol Title Company	100%	HomeService s	3910 South Street	Lincoln	NE	68506	X
CBSHOME Commercial, LLC	100%	HomeService s	14769 California Street	Omaha	NE	68154	X
CBSHOME Insurance, LLC	50%	HomeService s	14010 FNB Parkway, Suite 300	Omaha	NE	68154	X
CBSHOME Real Estate Company	100%	HomeService s	14769 California Street	Omaha	NE	68154	X
CBSHOME Real Estate of Iowa, Inc.	100%	HomeService s	14769 California Street	Omaha	NE	68154	X
CE Asia Limited	100%	BHE	Clarendon House, 2 Church Street, P.O. Box HM 1022	Hamilton HM DX	Bermuda		
CE Black Rock Holdings LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CE Butte Energy Holdings LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

CE Butte Energy LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CE Casecnan II, Inc.	100%	BHE	24th Floor, 6750 Building 6750 Ayala Avenue	Makati City	Metro Manila, Philippines	1266	X
CE Casecnan Ltd.	100%	BHE	Clarendon House, 2 Church Street, P.O. Box HM 1022	Hamilton	Bermuda	HM DX	X
CE Casecnan Water and Energy Company, Inc.	85%	BHE	24th Floor, 6750 Building 6750 Ayala Avenue	Makati City	Metro Manila, Philippines	1266	X
CE Electric (Ireland) Limited	100%	BHE	43 North Park	Finglas, Dublin	Ireland	11	X
CE Electric (NY), Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CE Electric Services Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
CE Electric UK Funding Company Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
CE Gen Oil Company	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CE Gen Pipeline Corporation	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CE Gen Power Corporation	100%	BHE	302 South 36th St., Suite 400	Omaha	NE	68131-3845	X
CE Generation, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CE Geothermal, Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CE International (Bermuda) Limited	100%	BHE	Clarendon House, 2 Church Street, P.O. Box HM 1022	Hamilton HM DX	Bermuda		
CE International Investments, Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CE Leathers Company	100%	BHE	324 West Sinclair Road	Calipatria	CA	92233	X
CE Luzon Geothermal Power Company, Inc.	100%	BHE	24th Floor, 6750 Building 6750 Ayala Avenue	Makati City	Metro Manila, Philippines	1266	X
CE Mahanagdong II, Inc.	100%	BHE	24th Floor, 6750 Building 6750 Ayala Avenue	Makati City	Metro Manila, Philippines	1266	X
CE Mahanagdong Ltd.	100%	BHE	Clarendon House, 2 Church Street, P.O. Box HM 1022	Hamilton	Bermuda	HM DX	X
CE Obsidian Energy LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CE Obsidian Holding LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CE Philippines Ltd.	100%	BHE	Clarendon House, 2 Church Street, P.O. Box HM 1022	Hamilton	Bermuda	HM DX	X
CE Red Island Energy Holdings LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CE Red Island Energy LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
CE Salton Sea Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

CE Texas Energy LLC	100%	BHE	302 South 36th St., Suite 400	Omaha	NE	68131	
CE Texas Fuel, L.L.C.	100%	BHE	302 South 36th St., Suite 400	Omaha	NE	68131	
CE Texas Gas, L.P.	100%	BHE	302 South 36th St., Suite 400	Omaha	NE	68131	
CE Texas Pipeline, L.L.C.	100%	BHE	302 South 36th St., Suite 400	Omaha	NE	68131	
CE Texas Power, L.L.C.	100%	BHE	302 South 36th St., Suite 400	Omaha	NE	68131	X
CE Texas Resources, L.L.C.	100%	BHE	302 South 36th St., Suite 400	Omaha	NE	68131	X
CE Turbo LLC <i>Managed by: Magma Power Company</i>	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Central PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Certified Disclosure Services (<i>d/b/a for Guarantee Appraisal Corporation</i>)	100%	HomeServices	5380 N Fresno St., Suite 101	Fresno	CA	93710	X
Champion Institute of Real Estate (<i>Champion Realty, Inc. d/b/a Champion Institute of Real Estate</i>)	100%	HomeServices	645 Baltimore Annapolis Blvd., Suite 200	Severna Park	MD	21146	X
Champion Realty Insurance (<i>HomeServices Insurance, Inc. d/b/a Champion Realty Insurance</i>)	100%	HomeServices	541-B Baltimore Annapolis Blvd., Suite 200	Severna Park	MD	21146	X
Champion Realty Title (<i>Chancellor Title Services, Inc. d/b/a</i>)	100%	HomeServices	541-B Baltimore-Annapolis Blvd.	Severna Park	MD	21146	X
Champion Realty, Inc.	100%	HomeServices	541-B Baltimore-Annapolis Blvd.	Severna Park	MD	21146	X
Chancellor Title Services, Inc.	100%	HomeServices	541-B Baltimore-Annapolis Blvd.	Severna Park	MD	21146	X
Chisago Schools Community Solar 1, LLC	100%	BHE	1850 N. Central Avenue, Suite 1025	Phoenix	AZ	85004	X
Chisago Schools Community Solar 2, LLC	100%	BHE	1850 N. Central Avenue, Suite 1025	Phoenix	AZ	85004	X
Chisago Schools Community Solar 3, LLC	100%	BHE	1850 N. Central Avenue, Suite 1025	Phoenix	AZ	85004	X
Chisago Schools Community Solar 4, LLC	100%	BHE	1850 N. Central Avenue, Suite 1025	Phoenix	AZ	85004	X
Chisago Schools Community Solar Gardens, LLC	100%	BHE	1850 N. Central Avenue, Suite 1025	Phoenix	AZ	85004	X
CJR Carol Jones (<i>d/b/a for IMO Co., Inc.</i>)	100%	HomeServices	3600 S. National	Springfield	MO	65807	X
CJR Commercial Group (<i>IMO Co., Inc. d/b/a CJR Commercial Group</i>)	100%	HomeServices	3600 S. National	Springfield	MO	65807	X
CJR Realtors, LLC	100%	HomeServices	3600 S. National	Springfield	MO	65807	X
CJR Red Carpet (<i>d/b/a for IMO Co., Inc.</i>)	100%	HomeServices	3600 S. National	Springfield	MO	65807	X
CJR Tri-Lakes (<i>d/b/a for IMO Co., Inc.</i>)	100%	HomeServices	3600 S. National	Springfield	MO	65807	X
CJR Westgate (<i>d/b/a for IMO Co., Inc.</i>)	100%	HomeServices	3600 S. National	Springfield	MO	65807	X
Columbia Title Agency, LLC	49%	HomeServices	5101 NE 82nd Avenue	Vancouver	WA	98662	X
Columbia Title of Florida, Inc.	100%	HomeServices	355 Alhambra Circle #950	Coral Gables	FL	33134	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

Commonsite, Inc.	100%	NV Energy	6226 W. Sahara Avenue	Las Vegas	NV	89146	X
Conejo Energy Company	100%	BHE	7029 Gentry Road	Calipatria	CA	92233	X
Connecticut Home Mortgage (<i>d/b/a for CTHM, L.L.C.</i>)	100%	HomeServices	Three Corporate Drive, Ste 212	Shelton	CT	06484	X
Connecticut Insurance Services, L.L.C.	50%	HomeServices	45 Church St.	Stamford	CT	06906	X
Cook Inlet Natural Gas Storage Alaska, LLC	26.5%	BHE	3000 Spenard Road	Anchorage	AK	99519	X
Cordova Energy Company LLC	100%	BHE	24712 192nd Avenue North	Cordova	IL	61242	X
Cordova Funding Corporation	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
County Land & Title, LLC	20%	HomeServices	739 Grand Avenue	Schofield	WI	54476	X
CTHM, L.L.C.	100%	HomeServices	860 North Main Street Ext	Wallingford	CT	06492	X
CTRE, L.L.C.	100%	HomeServices	860 North Main Street Ext	Wallingford	CT	06492	X
Dakota Dunes Development Company	100%	BHE	370 West Anchor Drive, Suite 300	Dakota Dunes	SD	57049	X
DCCO Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Del Ranch Company	100%	BHE	7029 Gentry Road	Calipatria	CA	92233	X
Desert Valley Company	100%	BHE	302 South 36th St., Suite 400	Omaha	NE	68131	X
DG-SB Project Holdings, LLC	100%	BHE	1850 N. Central Ave. Suite 1025	Phoenix	AZ	85004	X
Distinctive Properties (<i>d/b/a for HomeServices of Nebraska, Inc.</i>)	100%	HomeServices	3355 Orwell Street, Suite 102	Lincoln	NE	68516	X
East PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Eastern PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Edina Financial Services, Inc.	85.4%	HomeServices	6800 France Ave. So., Ste 600	Edina	MN	55435	X
Edina Realty Foundation	N/A	HomeServices	6800 France Ave. So., Ste 600	Edina	MN	55435	X
Edina Realty Home Services (<i>Edina Financial Services, Inc. d/b/a Edina Realty Home Services</i>)	100%	HomeServices	6800 France Ave. So., Ste 600	Edina	MN	55435	X
Edina Realty Insurance Agency, LLC (<i>d/b/a for Edina Realty Insurance, LLC</i>)	100%	HomeServices	100 S 5th Str #1075	Minneapolis	MN	55402	X
Edina Realty Insurance, LLC	50%	HomeServices	6000 Nathan Lane N., Ste 400	Plymouth	MN	55442	X
Edina Realty Mortgage (<i>d/b/a for HomeServices Lending, LLC</i>)	49.9%	HomeServices	1 Home Campus MAC X2406-011	Des Moines	IA	50328	X
Edina Realty Referral Network, Inc.	100%	HomeServices	6800 France Ave. So., Ste 600	Edina	MN	55435	X
Edina Realty Relocation, Inc.	100%	HomeServices	6800 France Ave. So., Ste 600	Edina	MN	55435	X

**BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)**

Edina Realty Title, Inc.	100%	HomeService s	6800 France Ave. So., Ste 410	Edina	MN	55435	X
Edina Realty, Inc.	100%	HomeService s	6800 France Ave. So., Ste 410	Edina	MN	55435	X
ElectraLink Limited	13.4%	BHE	Grafton House, 2-3 Golden Square	London	England	W1F 9HR	X
Electric Transmission America, LLC	50%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Electric Transmission Texas, LLC	50%	BHE	400 West 15th St, Suite 800	Austin	TX	78701	X
Elmore Company	100%	BHE	786 West Sinclair Road	Calipatria	CA	92233	X
Employee Transfer Co. (d/b/a for HomeServices Relocation, LLC)	100%	HomeService s	6800 France Ave. So., Ste 710	Edina	MN	55435	X
Energy West Mining Company	100%	BHE	201 South Main, Suite 2100	Salt Lake City	UT	84111	X
Esslinger-Wooten-Maxwell, Inc.	100%	HomeService s	355 Alhambra Circle #950	Coral Gables	FL	33134	X
eVolution Systems Ltd.	10%	BHE	12 Hillel Silver St.	Rawat-Gan	Tel Aviv, Israel	5250606	X
EWM Commercial (d/b/a for Esslinger-Wooten-Maxwell, Inc.)	100%	HomeService s	355 Alhambra Circle #950	Coral Gables	FL	33134	X
EWM Development Services (d/b/a for Esslinger-Wooten-Maxwell, Inc.)	100%	HomeService s	355 Alhambra Circle #950	Coral Gables	FL	33134	X
EWM Insurance (d/b/a for First Reserve Insurance, Inc.)	100%	HomeService s	355 Alhambra Circle #950	Coral Gables	FL	33134	X
EWM Real Estate (d/b/a for Esslinger-Wooten-Maxwell, Inc.)	100%	HomeService s	355 Alhambra Circle #950	Coral Gables	FL	33134	X
EWM Realtors (d/b/a for Esslinger-Wooten-Maxwell, Inc.)	100%	HomeService s	355 Alhambra Circle #950	Coral Gables	FL	33134	X
EWM Realty International (d/b/a for Esslinger-Wooten-Maxwell, Inc.)	100%	HomeService s	355 Alhambra Circle #950	Coral Gables	FL	33134	X
E-W-M Referral Services, Inc.	100%	HomeService s	355 Alhambra Circle #950	Coral Gables	FL	33134	X
EWM Relocation (d/b/a for Esslinger-Wooten-Maxwell, Inc.)	100%	HomeService s	355 Alhambra Circle #950	Coral Gables	FL	33134	X
EWM Title (Columbia Title of Florida, Inc. d/b/a EWM Title)	100%	HomeService s	355 Alhambra Circle #950	Coral Gables	FL	33134	X
F&R/T LLC	100%	HomeService s	431 West Lancaster Avenue	Devon	PA	19333	X
Fairbanks Ranch Realty (Pickford Real Estate, Inc. d/b/a Fairbanks Ranch Realty)	100%	HomeService s	12544 High Bluff Drive, Suite 420	San Diego	CA	92130	X
Falcon Power Operating Company	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
FFR, Inc.	100%	HomeService s	1415 28th Street, Suite 140	West Des Moines	IA	50266	X
First Insurance, Inc. (d/b/a for Iowa Realty Insurance Agency, Inc.)	100%	HomeService s	3501 Westown Parkway	West Des Moines	IA	50266	X
First Realty (J.S. White & Associates, Inc. d/b/a First Realty)	100%	HomeService s	1724 E. University Drive	Auburn	AL	36830	X

**BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)**

First Realty Foundation (<i>Iowa Realty Foundation d/b/a First Realty Foundation</i>)	N/A	HomeService s	3501 Westown Parkway	West Des Moines	IA	50266	X
First Realty Group, Inc.	100%	HomeService s	5250 E Terrace Drive, Suite 1	Madison	WI	53718	X
First Realty, Ltd.	100%	HomeService s	3501 Westown Parkway	West Des Moines	IA	50266	X
First Reserve Insurance, Inc.	100%	HomeService s	355 Alhambra Circle #950	Coral Gables	FL	33134	X
First Weber Group Foundation, Inc.	N/A	HomeService s	5250 E Terrace Drive, Suite 1	Madison	WI	53718	X
First Weber Illinois, LLC	100%	HomeService s	5250 E Terrace Drive, Suite 1	Madison	WI	53718	X
First Weber, Inc.	100%	HomeService s	611 N Barker Road, Suite 100	Brookfield	WI	53045	X
Fish Lake Power LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
For Rent, Inc.	100%	HomeService s	900 East River Road #100	Tucson	AZ	85718	X
Fort Dearborn Insurance Agency (<i>d/b/a for HomeServices Insurance, Inc.</i>)	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
Fort Dearborn Land Title Company, LLC	100%	HomeService s	4709 Golf Rd Ste 1100	Skokie	IL	60076-1261	X
Fort Dearborn Mortgage, LLC	100%	HomeService s	4709 Golf Rd Ste 1100	Skokie	IL	60076-1261	
Fort Dearborn Title (<i>d/b/a for Fort Dearborn Land Title Company, Inc.</i>)	100%	HomeService s	4709 Golf Rd Ste 1100	Skokie	IL	60076-1261	X
Fossil Rock Fuels, LLC	100%	BHE	North Temple Office Rm 320, 1407 W North Temple	Salt Lake City	UT	84116	X
Fox & Roach (PHILA) LP	100%	HomeService s	431 West Lancaster Avenue	Devon	PA	19333	X
Fox & Roach Charities	100%	HomeService s	431 West Lancaster Avenue	Devon	PA	19333	X
Fox & Roach LP	100%	HomeService s	431 West Lancaster Avenue	Devon	PA	19333	X
Fox & Roach/Trident Limited Partnership	100%	HomeService s	431 West Lancaster Avenue	Devon	PA	19333	X
FRTC, LLC	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
FSRI Holdings, Inc.	100%	BHE	302 South 36th St., Suite 400	Omaha	NE	68131-3845	X
Geronimo Community Solar Gardens, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Gilbert/CBE L.P.	20%	BHE	666 Grand Avenue	Des Moines	IA	50309	
Glenrock Coal Company	100%	BHE	201 South Main, Suite 2100	Salt Lake City	UT	84111	X
GPSF-B Inc.	100%	BHE	6226 West Sahara Avenue	Las Vegas	NV	89151	X
Grande Prairie Wind, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Guarantee Appraisal Corporation	100%	HomeService s	5380 N Fresno St., Suite 101	Fresno	CA	93710	X
Guarantee Home Services (<i>d/b/a for Guarantee Real Estate</i>)	100%	HomeService s	5380 N Fresno St., Suite 101	Fresno	CA	93710	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

Guarantee Real Estate	100%	HomeService s	5380 N Fresno St., Suite 101	Fresno	CA	93710	X
Guarantee.com (d/b/a for Guarantee Real Estate)	100%	HomeService s	5380 N Fresno St., Suite 101	Fresno	CA	93710	X
Guarantee.com Real Estate Services (d/b/a for Guarantee Real Estate)	100%	HomeService s	5380 N Fresno St., Suite 101	Fresno	CA	93710	X
H N Insurance Services, LLC	50%	HomeService s	434 Green Street NW	Gainesville	GA	30503	X
Harry Norman, Realtors (d/b/a for HN Real Estate Group, L.L.C.)	100%	HomeService s	532 E. Paces Ferry, Suite 300	Atlanta	GA	30305	X
HMSV Financial Services, Inc.	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55435	X
HN Real Estate Group, L.L.C.	100%	HomeService s	532 E. Paces Ferry, Suite 300	Atlanta	GA	30305	X
HN Real Estate Group, N.C., Inc.	100%	HomeService s	532 E. Paces Ferry, Suite 300	Atlanta	GA	30305	X
HN Referral Corporation	100%	HomeService s	532 E. Paces Ferry, Suite 300	Atlanta	GA	30305	X
HOME Real Estate (HomeServices of Nebraska, Inc. d/b/a HOME Real Estate)	100%	HomeService s	3355 Orwell St., Suite 102	Lincoln	NE	68516	X
Home Services Referral Network, LLC	100%	HomeService s	3133 Blackiston Mill Road	New Albany	IN	47150	X
Homesale Insurance Services, LLC	51%	HomeService s	431 West Lancaster Avenue	Devon	PA	19333	X
HomeServices Disclosure Reports (d/b/a for Guarantee Appraisal Corporation)	100%	HomeService s	5380 N Fresno St., Suite 101	Fresno	CA	93710	X
HomeServices Insurance Agency (d/b/a for HomeServices Insurance, Inc.)	100%	HomeService s	666 Grand Avenue	Des Moines	IA	50309	X
HomeServices Insurance Agency, LLC	50%	HomeService s	12544 High Bluff Drive, Ste 100	San Diego	CA	92130	X
HomeServices Insurance Georgia (d/b/a for HomeServices Insurance, Inc.)	100%	HomeService s	863 Holcomb Bridge Road	Roswell	GA	30076	X
HomeServices Insurance, Inc.	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
HomeServices Kentuckiana Insurance (d/b/a for HomeServices of Kentucky Insurance, LLC)	50%	HomeService s	600 North Hurstbourne Pkwy, Suite 200	Louisville	KY	40222	X
HomeServices Lending, LLC	49.9%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
HomeServices Mortgage (d/b/a for HMSV Financial Services, Inc.)	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55435	X
HomeServices Northeast, LLC	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
HomeServices of Alabama, Inc.	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
HomeServices of America, Inc.	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
HomeServices of California, Inc.	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
HomeServices of Connecticut, LLC	100%	HomeService s	860 N. Main St. Ext.	Wallingford	CT	06492	X

**BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)**

HomeServices of Florida, Inc.	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
HomeServices of Georgia, LLC	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
HomeServices of Illinois Holdings, LLC	100%	HomeService s	4709 Golf Road	Skokie	IL	60076	X
HomeServices of Illinois, LLC	100%	HomeService s	4709 West Golf Road, Ste 1100	Skokie	IL	60076	X
HomeServices of Iowa, Inc.	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
HomeServices of Kentucky Insurance, LLC	50%	HomeService s	600 North Hurstbourne Pkwy, Suite 200	Louisville	KY	40222	X
HomeServices of Kentucky Real Estate Academy, LLC	100%	HomeService s	4967 US Hwy 42, Suite 100	Louisville	KY	40222	X
HomeServices of Kentucky, Inc.	100%	HomeService s	600 North Hurstbourne Pkwy, Suite 200	Louisville	KY	40222	X
HomeServices of Moka, LLC	100%	HomeService s	11601 Granada	Leawood	KS	66211	X
HomeServices of Nebraska Insurance, LLC	50%	HomeService s	1919 South 40th Street, #104	Lincoln	NE	68506	X
HomeServices of Nebraska, Inc.	100%	HomeService s	225 N. Cotner Blvd, Suite 102	Lincoln	NE	68505	X
HomeServices of Oregon, LLC	100%	HomeService s	1801 West Bay Drive NW	Olympia	WA	98502	X
HomeServices of the Carolinas, Inc.	100%	HomeService s	666 Grand Avenue	Des Moines	IA	50309	X
HomeServices of Washington, LLC	100%	HomeService s	4700 42nd Ave. SW, #600	Seattle	WA	98116	X
HomeServices of Wisconsin, LLC	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55435	X
HomeServices Relocation, LLC	100%	HomeService s	6800 France Ave. So., Ste 710	Edina	MN	55435	X
HomeServices School of Real Estate of the Carolinas (<i>d/b/a for Preferred Carolinas Realty, Inc.</i>)	100%	HomeService s	380 Knollwood Street, Suite 420	Winston Salem	NC	27103	X
HomeServices Title & Closing Network (<i>d/b/a for HomeServices of America, Inc.</i>)	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55435	X
HomeServices Title, Inc. (<i>d/b/a for Edina Realty Title, Inc.</i>)	100%	HomeService s	6800 France Ave. South, Suite 410	Edina	MN	55435	X
HomeServices Warranty (<i>Preferred Carolinas Title Agency, L.L.C. d/b/a HomeServices Warranty</i>)	100%	HomeService s	380 Knollwood St Ste 415	Winston Salem	NC	27103	X
HS Franchise Holding, LLC	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
HSF Affiliates LLC	66%	HomeService s	18500 Von Karman Avenue, Ste 400	Irvine	CA	92612	X
HSGA Real Estate Group, L.L.C.	100%	HomeService s	863 Holcomb Bridge Road	Roswell	GA	30076	X
HSI Insurance (<i>HomeServices Insurance, Inc. d/b/a HSI Insurance</i>)	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X
HSI Insurance Agency (<i>d/b/a for HomeServices Insurance, Inc.</i>)	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55402	X

**BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)**

HSR Equity Funding, Inc.	100%	HomeService s	6800 France Ave. South, Suite 6990	Edina	MN	55435	X
HSW Affiliates Holding, LLC	100%	HomeService s	333 South 7th St., Suite 2700	Minneapolis	MN	55435	X
Huff Commercial Group, LLC	100%	HomeService s	334 Beechwood Road, Suite 200	Fort Mitchell	KY	41017	X
Huff Realty (d/b/a for Jim Huff Realty, Inc. and Huff-Drees Realty, Inc.)	100%	HomeService s	334 Beechwood Road, Suite 200	Fort Mitchell	KY	41017	X
Huff Realty Insurance, LLC	50%	HomeService s	2734 Chancellor Drive	Crestview Hills	KY	41017	X
Huff Realty Title (Traditions Title Agency, LLC d/b/a Huff Realty Title)	49.9%	HomeService s	334 Beechwood Road	Fort Mitchell	KY	41017	X
Huff-Drees Realty, Inc.	100%	HomeService s	334 Beechwood Road, Ste 500	Fort Mitchell	KY	41017	X
IES Holding II, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
IES Holding, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
IMO Co., Inc.	100%	HomeService s	3600 South National	Springfield	MO	65807	X
Imperial Magma LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Infrastructure North Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Insurance Services of New Jersey, LLC	51%	HomeService s	431 West Lancaster Avenue	Devon	PA	19333	X
InsuranceSouth, LLC	50%	HomeService s	434 Green Street	Gainesville	GA	30501	X
Integrated Utility Services (UK) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Integrated Utility Services Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Integrated Utility Services Limited	100%	BHE	43 North Park	Finglas, Dublin	Ireland	11	X
Intelligent Energy Solutions, LLC	100%	BHE	980 Birmingham Road, Ste 501	Milton	GA	30004	X
Intero Franchise Services, Inc.	100%	HomeService s	10275 N De Anza Blvd	Cupertino	CA	95014	X
Intero Real Estate Holdings, Inc.	100%	HomeService s	10275 N De Anza Blvd	Cupertino	CA	95014	X
Intero Real Estate Services, Inc.	100%	HomeService s	10275 N De Anza Blvd	Cupertino	CA	95014	X
Intero Referral Services, Inc.	100%	HomeService s	10275 N De Anza Blvd	Cupertino	CA	95014	X
Interwest Mining Company	100%	BHE	201 South Main, Suite 2100	Salt Lake City	UT	84111	X
Iowa Business Growth Company	11.3%	BHE	5409 NW 88th Street, Suite 100	Johnston	IA	50131	X
Iowa Realty Co., Inc.	100%	HomeService s	3501 Westown Parkway	West Des Moines	IA	50266	X
Iowa Realty Commercial (d/b/a for Iowa Realty Co., Inc.)	100%	HomeService s	3501 Westown Parkway	West Des Moines	IA	50266	X
Iowa Realty Foundation		HomeService s	3501 Westown Parkway	West Des Moines	IA	50266	X
Iowa Realty Insurance Agency, Inc.	100%	HomeService s	3501 Westown Parkway	West Des Moines	IA	50266	X
Iowa Realty Relocation (Iowa Realty Co., Inc. d/b/a Iowa Realty Relocation)	100%	HomeService s	3501 Westown Parkway	West Des Moines	IA	50266	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

Iowa Title Company	100%	HomeService s	3930 Westown Parkway	Des Moines	IA	50266	X
Iowa Title Linn County II, LLC	70%	HomeService s	3501 Westown Parkway	West Des Moines	IA	50266	X
IUS Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
J. S. White & Associates, Inc.	100%	HomeService s	1725 E. University Drive	Auburn	AL	36830	
JBRC, Inc.	100%	HomeService s	334 Beechwood Drive, Suite 200	Fort Mitchell	KY	41017	X
Jim Huff Realty, Inc.	100%	HomeService s	334 Beachwood Rd, Suite 200	Fort Mitchell	KY	41017	X
JRHBW Realty, Inc.	100%	HomeService s	2501 20th Place So., Suite 400	Birmingham	AL	35223	X
Jumbo Road Holdings, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Kansas City Title, Inc.	100%	HomeService s	221 W. Lexington, Suite 103	Independence	MO	64050	X
Kanstar Transmission, LLC	50%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Kentucky Residential Referral Service, LLC	100%	HomeService s	4967 U.S. Highway 42, Suite 200	Louisville	KY	40222	X
Kern River Funding Corporation	100%	BHE	2755 East Cottonwood Parkway, Suite 300	Salt Lake City	UT	84121	X
Kern River Gas Transmission Company	100%	BHE	2755 East Cottonwood Parkway, Suite 300	Salt Lake City	UT	84121	X
Kern River Holding, LLC (<i>KR Holding, LLC d/b/a Kern River Holding, LLC</i>)	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
KoenigRubloff (<i>d/b/a for HomeServices of Illinois</i>)	100%	HomeService s	4709 West Golf Road, Ste 1100	Skokie	IL	60076	X
KoenigRubloff Cares Foundation (<i>i/k/a Koenig & Strey Foundation</i>)		HomeService s	4709 West Golf Road, Ste 1100	Skokie	IL	60076	X
KR Acquisition 1, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
KR Acquisition 2, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
KR Holding, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Land Title and Closing Services, L.L.C. (<i>78.57% through Preferred Title, LLC</i>)	30%	HomeService s	2728 Coho Street	Madison	WI	53713	X
Lands of Sierra, Inc.	100%	BHE	6226 West Sahara Avenue	Las Vegas	NV	89151	X
Larabee School of Real Estate, Inc.	100%	HomeService s	3355 Orwell Street	Lincoln	NE	68516	X
Lincoln Title Company, LLC	40%	HomeService s	3910 South Street	Lincoln	NE	68506	X
Long Companies (<i>d/b/a for Roy H. Long Realty Company, Inc.</i>)	100%	HomeService s	900 East River Rd., Suite 100	Tucson	AZ	85718	X
Long Insurance Group (<i>d/b/a for HomeServices Insurance, Inc.</i>)	100%	HomeService s	900 East River Rd., Suite 100	Tucson	AZ	85718	X
Long Mortgage Company (<i>d/b/a for Home Services Lending, LLC</i>)	49.9%	HomeService s	One Home Campus	Des Moines	IA	50328	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

Long Realty (Roy H. Long Realty Company, Inc. d/b/a Long Realty)	100%	HomeService s	900 East River Rd., Suite 100	Tucson	AZ	85718	X
Long Realty Cares Foundation, Inc.		HomeService s	900 East River Rd., Suite 100	Tucson	AZ	85718	X
Long Realty Company (d/b/a for Roy H. Long Realty Company, Inc.)	100%	HomeService s	900 East River Rd., Suite 100	Tucson	AZ	85718	X
Long Realty Property Management (d/b/a for Arizona HomeServices, LLC)	100%	HomeService s	275 W. Continental Rd., Suite 181	Green Valley	AZ	85614	X
Long Title (Roy H. Long Realty Company, Inc. d/b/a Long Title)	100%	HomeService s	900 East River Rd., Suite 100	Tucson	AZ	85718	X
Long Title Agency, LLC	55%	HomeService s	900 East River Rd., Suite 103	Tucson	AZ	85718	X
M & M Ranch Acquisition Company, LLC	100%	BHE	11 N Main Street, Suite 100	Buffalo	WY	82834	X
M & M Ranch Holding Company, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Magma GEO-83 JV	90%	BHE	4365 Executive Dr, Suite 900	San Diego	CA	92121	
Magma Land Company I	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Magma Netherlands B.V.	100%	BHE	24th Floor, 6750 Building 6750 Ayala Avenue	Makati	Metro Manilla, Philippines	1226	X
Magma Power Company	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Marshall Wind Energy, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
MEC Construction Services Co.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
MEHC Canada GenCo GP Corporation	100%	BHE	2900 - 550 Burrard Street	Vancouver	British Columbia Canada	V6C 0A3	X
MEHC Canada GenCo Limited Partnership	100%	BHE	2900 - 550 Burrard Street	Vancouver	British Columbia Canada	V6C 0A3	X
MEHC Canada Transmission GP Corporation	100%	BHE	2900 - 550 Burrard Street	Vancouver	British Columbia Canada	V6C 0A3	X
MEHC Insurance Services Ltd.	100%	BHE	148 College Street	Burlington	VT	05401	X
MEHC Investment, Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
MEHC Merger Sub Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	
MEHC Transmission Canada Limited Partnership	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Metalogic Inspection Services Inc.	57%	BHE	400, 10525 - 170th Street NW	Edmonton	Alberta, Canada	T5P 0A7	X
Metalogic Inspection Services LLC	100%	BHE	400, 10525 - 170th Street NW	Edmonton	Alberta, Canada	T5P 0A7	
MHC Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
MHC Investment Company	100%	BHE	370 West Anchor Drive, Suite 300	Dakota Dunes	SD	57049	X
Mid-America Referral Network, Inc.	100%	HomeService s	11500 Granada	Leawood	KS	66211	X
MidAmerican Central California Transco, LLC	50%	BHE	666 Grand Avenue	Des Moines	IA	50309	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

MidAmerican Energy Company	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
MidAmerican Energy Foundation	N/A	BHE	666 Grand Avenue	Des Moines	IA	50309	X
MidAmerican Energy Machining Services LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
MidAmerican Energy Services, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
MidAmerican Funding, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
MidAmerican Geothermal Development Corporation	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
MidAmerican IES, LLC (d/b/a)	100%	BHE	980 Birmingham Road	Milton	GA	30004	X
MidAmerican Wind Tax Equity Holdings, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Midland Escrow Services, Inc.	100%	HomeServices	3501 Westown Parkway	West Des Moines	IA	50266	X
Midlands PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Midwest Capital Group, Inc.	100%	BHE	370 West Anchor Drive, Suite 300	Dakota Dunes	SD	57049	X
Midwest Power Midcontinent Transmission Development, LLC	50%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Midwest Power Transmission Arkansas, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Midwest Power Transmission Iowa, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Midwest Power Transmission Kansas, LLC	50%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Midwest Power Transmission Oklahoma, LLC	50%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Midwest Power Transmission Texas, LLC	50%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Midwest Realty Ventures, LLC	100%	HomeServices	980 N Michigan Ave, Ste 900	Chicago	IL	60611	X
MPT Heartland Development, LLC	50%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
MSPS Holdings, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
MTL Canyon Holdings, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
NAI Iowa Realty Commercial (d/b/a for Iowa Realty Co., Inc.)	100%	HomeServices	3425 First Ave SE Suite 101	Cedar Rapids	IA	52402	X
Nebraska Land Title and Abstract (Capitol Title Company d/b/a Nebraska Land Title and Abstract)	100%	HomeServices	412 North Linden St., Suite D	Wahoo	NE	68066	X
Nebraska Land Title and Abstract Co.	100%	HomeServices	11213 Davenport Street	Omaha	NE	68154	X
Nebraska Referral, Inc.	100%	HomeServices	3355 Orwell Street	Lincoln	NE	68516	X
NEDL Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Nevada Electric Investment Company	100%	NV Energy	6226 West Sahara Avenue	Las Vegas	NV	89151	X
Nevada Power Company	100%	NV Energy	6226 West Sahara Avenue	Las Vegas	NV	89151	X

**BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)**

New England Properties Referral Group, LLC	100%	HomeServices	860 North Main St. Ext.	Wallingford	CT	06492	X
NewGen Drilling Pty Limited	79.99%	BHE	89 St. Georges Terrance, Level 3	Perth, WA	Australia	6000	X
Niguel Energy Company	100%	BHE	786 West Sinclair Road	Calipatria	CA	92233	X
NMA, LLC	100%	HomeServices	4700 42nd Ave. SW, #600	Seattle	WA	98116	X
NNGC Acquisition, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
NorCon Holdings, Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	
Norming Investments B.V.	100%	BHE	Westblaak 89	Rotterdam	Netherlands	3012 KG	X
North Country Gas Pipeline Corporation	100%	BHE	99 Weed Street Extension	Plattsburgh	NY	12901	
North East PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
North Eastern PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
North PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
North West PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
North Western PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Consolidated Power, Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Northern Electric & Gas Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Northern Electric Distribution Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Electric Finance plc	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Northern Electric plc	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Northern Electric Properties Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Electric Share Scheme Trustee Ltd.	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Electricity (North East) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Electricity (Yorkshire) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Electricity Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Electricity Networks Company (North East) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Electricity Networks Company (Yorkshire) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Electricity Networks Company Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Electrics Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

Northern Energy Funding Company Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Metering Services Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Natural Gas Company	100%	BHE	1111 So. 103rd Street	Omaha	NE	68124-1000	X
Northern Power Networks Company (North East) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Power Networks Company (Yorkshire) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Power Networks Company Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern PowerGrid (North West) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern PowerGrid (Northeast) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Northern Powergrid (Yorkshire) plc	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Northern Powergrid Gas Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Northern Powergrid Holdings Company	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Northern Powergrid Insurance Services Limited	100%	BHE	3rd Floor, Jubilee Building, Victoria Street	Douglas	Isle of Man	IM1 2LR	X
Northern Powergrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Northern Powergrid Metering Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Northern Powergrid UK Holdings	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Northern Transport Finance Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northern Utility Services Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Northfield Community Solar Gardens, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG1, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG10, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG11, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG12, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG13, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG14, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG15, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG2, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG3, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG4, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

Northfield CSG5, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG6, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG7, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG8, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northfield CSG9, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Northwest Mortgage Alliance, LLC	50%	HomeServices	301 116th Ave. SE Suite 420	Bellevue	WA	98004	X
Northwoods Title & Closing Services, LLC	30%	HomeServices	229 South 3rd Street	Eagle River	WI	54521	X
NRS Referral Services LLC	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
NV Energy Charitable Foundation		BHE	P.O. Box 10100	Reno	NV	89520	X
NV Energy, Inc.	100%	BHE	6226 West Sahara Avenue	Las Vegas	NV	89151	X
NVE Holdings, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
NVE Insurance Company, Inc.	100%	BHE	6226 West Sahara Avenue	Las Vegas	NV	89151	X
NW Referral Services, LLC	100%	HomeServices	9600 SW Barnes Road, #100	Portland	OR	97225	X
OCTNC Partners I, LLC	50%	HomeServices	640 N Tustin Ave, Suite 106	Santa Ana	CA	92705	X
Orange Coast Title Company of Northern California	49%	HomeServices	640 N Tustin Ave, Suite 106	Santa Ana	CA	92705	X
Orion Community Solar Gardens, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Orion CSG1, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Orion CSG2, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Orion CSG3, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Ormoc Cebu Ltd.	100%	BHE	Clarendon House, 2 Church Street, P.O. Box HM 1022	Hamilton HM DX	Bermuda		
Pacific Minerals, Inc.	100%	BHE	201 South Main, Suite 2100	Salt Lake City	UT	84111	X
Pacific Power & Light Company (<i>PacifiCorp d/b/a Pacific Power & Light Company</i>)	100%	BHE	825 NE Multnomah, Suite 2000	Portland	OR	97232	X
Pacific Power Foundation (<i>PacifiCorp Foundation d/b/a Pacific Power Foundation</i>)	N/A	BHE	825 NE Multnomah, Suite 2000	Portland	OR	97232	X
Pacific Power (<i>PacifiCorp d/b/a Pacific Power</i>)	100%	BHE	825 NE Multnomah, Suite 2000	Portland	OR	97232	X
PacifiCorp	100%	BHE	825 NE Multnomah, Suite 2000	Portland	OR	97232	X
PacifiCorp Electric Operations (<i>PacifiCorp d/b/a PacifiCorp Electric Operations</i>)	100%	BHE	825 NE Multnomah, Suite 2000	Portland	OR	97232	X

**BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)**

PacifiCorp Energy (PacifiCorp d/b/a PacifiCorp Energy)	100%	BHE	1407 West North Temple	Salt Lake City	UT	84116	X
PacifiCorp Foundation	N/A	BHE	825 NE Multnomah, Suite 2000	Portland	OR	97232	X
PacifiCorp Insurance Services (PacifiCorp d/b/a PacifiCorp Insurance Services)	100%	BHE	825 NE Multnomah, Suite 2000	Portland	OR	97232	X
Paynesville Community Solar 1, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 10, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 11, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 12, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 13, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 14, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 15, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 2, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 3, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 4, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 5, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 6, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 7, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 8, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar 9, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Paynesville Community Solar Gardens, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
PCRE, L.L.C.	100%	HomeService s	860 N. Main Street	Wallingford	CT	06492	X
PFR Staffers, LLC	100%	HomeService s	431 West Lancaster Avenue	Devon	PA	19333	X
Pickford Escrow Company, Inc.	100%	HomeService s	12544 High Bluff Dr., Ste 420	San Diego	CA	92130	X
Pickford Holdings LLC	100%	HomeService s	12544 High Bluff Dr., Ste 420	San Diego	CA	92130	X
Pickford North County, LP	60%	HomeService s	12544 High Bluff Dr., Ste 420	San Diego	CA	92130	X
Pickford Real Estate, Inc.	100%	HomeService s	12544 High Bluff Dr., Ste 420	San Diego	CA	92130	X
Pickford Realty Cares		HomeService s	12544 High Bluff Dr., Ste 420	San Diego	CA	92130	X
Pickford Realty, Ltd.	100%	HomeService s	12544 High Bluff Dr., Ste 420	San Diego	CA	92130	X
Pickford Services Company	100%	HomeService s	12544 High Bluff Dr., Ste 420	San Diego	CA	92130	X

**BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)**

Pilot Butte, LLC	100%	HomeServices	12004 NE Salmon Creek Ave	Vancouver	WA	98686	X
Pinon Pine Company, LLC	100%	NV Energy	6226 West Sahara Avenue	Las Vegas	NV	89151	X
Pinon Pine Corp.	100%	NV Energy	6226 West Sahara Avenue	Las Vegas	NV	89151	X
Pinon Pine Investment Co.	100%	NV Energy	6226 West Sahara Avenue	Las Vegas	NV	89151	X
Pinyon Pines I Holding Company, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Pinyon Pines II Holding Company, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Pinyon Pines Wind I, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Pinyon Pines Wind II, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
PNJP, LLC	17.5%	HomeServices	220 Davidson Ave.	Somerset	NJ	08873	X
PNW Referral, LLC	100%	HomeServices	4700 42nd Ave. SW, #600	Seattle	WA	98116	X
Power Resources, Ltd.	100%	BHE	500 Refinery Road	Big Spring	TX	79721	X
PowerGrid (Central) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (East) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (Eastern) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (Midlands) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (North East) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (North Eastern) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (North West) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (North Western) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (North) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (Northern) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (South East) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (South Eastern) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (South West) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (South Western) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (South) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (Southern) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (West) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

PowerGrid (Western) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PowerGrid (Yorkshire) Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
PPW Holdings LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
PPW Staffers, LLC	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
Prairie Wind Transmission, LLC	25%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Preferred Carolinas Realty, Inc.	100%	HomeServices	110 Oakwood Drive, Suite 110	Winston Salem	NC	27103	X
Preferred Carolinas Title Agency, L.L.C.	100%	HomeServices	370 Knollwood Street, Suite 420	Winston Salem	NC	27103	X
Preferred Title, LLC	40%	HomeServices	2728 Coho Street	Madison	WI	53713	X
Premier Insurance Agency LP	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
Prime Alliance Real Estate Services, LLC	50%	HomeServices	4700 42nd Ave SW, #600	Seattle	WA	98116	X
Priority Title Corporation	100%	HomeServices	611 Barker Road, Suite 100	Brookfield	WI	53045	X
Professional Referral Organization, Inc.	100%	HomeServices	541-B Baltimore-Annapolis Blvd.	Severna Park	MD	21146	X
Project Help (PacifiCorp d/b/a Project Help)		BHE	825 N.E. Multnomah, Suite 2000	Portland	OR	97232	X
Prudential Real Estate (d/b/a for BRER Affiliates LLC)	100%	HomeServices	18500 Von Karman Avenue, Ste 400	Irvine	CA	92612	X
PW Fox Holding, LLC	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
PW Fox Limited Partnership	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
PW Fox, LLC	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
Quad Cities Energy Company	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Racom Corporation	17%	BHE	201 West State	Marshalltown	IA	50158	X
Real Estate Knowledge Services, L.L.C.	100%	HomeServices	860 North Main Street	Wallingford	CT	06492	X
Real Estate Links, LLC	100%	HomeServices	3501 Westown Parkway	West Des Moines	IA	50266	X
Real Estate Referral Network, Inc.	100%	HomeServices	14769 California Street	Omaha	NE	68154	X
Real Living Real Estate, LLC	100%	HomeServices	18500 Von Karman Avenue, Ste 400	Irvine	CA	92612	X
RealtySouth (d/b/a for JRHBW Realty, Inc.)	100%	HomeServices	2501 20th Place South, Suite 400	Birmingham	AL	35223	X
Rector-Hayden Mortgage (d/b/a for HomeServices Lending, LLC)	49.9%	HomeServices	One Home Campus	Des Moines	IA	50328	X
Rector-Hayden Realtors (d/b/a for HomeServices of Kentucky, Inc.)	100%	HomeServices	998 Governors Lane, Suite 125	Lexington	KY	40513	X
Reece & Nichols Alliance, Inc.	100%	HomeServices	11500 Granada	Leawood	KS	66211	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

Reece & Nichols Insurance, LLC	50%	HomeService s	4370 W. 109th Street, Ste 350	Overland Park	KS	66211	X
Reece & Nichols Realtors, Inc.	100%	HomeService s	11601 Granada	Leawood	KS	66211	X
Reece Commercial, Inc.	100%	HomeService s	11500 Granada	Leawood	KS	66211	X
ReeceNichols (d/b/a for Reece & Nichols Realtors, Inc.)	100%	HomeService s	11601 Granada	Leawood	KS	66211	X
ReeceNichols Real Estate (d/b/a for Reece & Nichols Realtors, Inc.)	100%	HomeService s	11601 Granada	Leawood	KS	66211	X
Referral Associates of Georgia, Inc.	100%	HomeService s	863 Holcomb Bridge Road	Roswell	GA	30076	X
Referral Network of IL, LLC	100%	HomeService s	4709 West Golf Road, Suite 1100	Skokie	IL	60076	X
Relocation Advantage Partners, LLC	100%	HomeService s	860 North Main Street	Wallingford	CT	06492	X
RES Canada Transmission GP Inc.	50%	BHE	c/o Renewable Energy Systems Americas Inc. 11101 W. 120th Ave., Ste 400	Broomfield	CO	80021	X
RES Canada Transmission LP	50%	BHE	c/o Renewable Energy Systems Americas Inc. 11101 W. 120th Ave., Ste 400	Broomfield	CO	80021	X
RHL Referral Company, L.L.C.	100%	HomeService s	900 E. River Road, Suite 100	Tucson	AZ	85718	X
Right Choice Title Company, LLC	50%	HomeService s	3500 Lenox Road	Atlanta	GA	30326	X
Roberts Brothers Real Estate (d/b/a for Roberts Brothers, Inc.)	100%	HomeService s	3601 Spring Hill Business Park, Suite 101	Mobile	AL	36660	X
Roberts Brothers, Inc.	100%	HomeService s	3601 Spring Hill Business Park, Suite 101	Mobile	AL	36660	X
Roberts Brothers, REALTORS (d/b/a for Roberts Brothers, Inc.)	100%	HomeService s	3601 Spring Hill Business Park, Suite 101	Mobile	AL	36660	X
Rocky Mountain Power (d/b/a for PacifiCorp)	100%	BHE	201 South Main	Salt Lake City	UT	84111	X
Rocky Mountain Power Foundation (d/b/a for PacifiCorp Foundation)		BHE	825 NE Multnomah, Suite 2000	Portland	OR	97232	X
Rosemount Community Solar Gardens, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG1, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG10, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG11, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG12, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG13, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG14, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG15, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

Rosemount CSG16, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG17, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG18, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG19, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG2, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG20, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG21, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG3, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG4, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG5, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG6, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG7, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG8, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Rosemount CSG9, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Roy H. Long Realty Company, Inc.	100%	HomeServices	900 E. River Road, Suite 100	Tucson	AZ	85718	X
S.W. Hydro, Inc.	100%	BHE	335 Sioux Point Rd, Suite 100	Dakota Dunes	SD	57049	X
Salton Sea Brine Processing Company	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Salton Sea Funding Corporation	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Salton Sea Minerals Corp.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Salton Sea Power Company	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Salton Sea Power Generation Company	100%	BHE	6920 Lack Road	Calipatria	CA	92233	X
Salton Sea Power LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Salton Sea Royalty Company	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
San Diego PCRE, Inc.	100%	HomeServices	12544 High Bluff Dr., Ste 120	San Diego	CA	92130	X
San Felipe Energy Company	100%	BHE	342 West Sinclair Road	Calipatria	CA	92233	X
Saranac Energy Company, Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Saranac Power Partners, L.P.	75%	BHE	90 Weed Street Extension	Plattsburgh	NY	12901	X
SECI Holdings, Inc.	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
SelectUsOnline Limited	16.66%	BHE	Haweswater House, Lingley Mere Business Park, Lingley Green	Great Sankey Warrington	England	WA5 3LP	X

**BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)**

Semonin Real Estate Services (d/b/a for HomeServices of Kentucky, Inc.)	100%	HomeServices	4967 U.S. Hwy 42, Suite 200	Louisville	KY	40222	X
Semonin Realtors (d/b/a for HomeServices of Kentucky, Inc.)	100%	HomeServices	4967 U.S. Hwy 42, Suite 200	Louisville	KY	40222	X
Semonin Title, Inc. (d/b/a for Edina Realty Title, Inc.)	100%	HomeServices	6800 France Avenue South Suite 230	Louisville	KY	40222	X
Shared Real Estate Ventures of Vancouver, LLC	33.33%	HomeServices	7525 SE 24th St, Suite 630	Mercer Island	WA	98040	X
Shorebreak Holdings II, LLC	100%	BHE	1850 N. Central Ave. Suite 1025	Phoenix	AZ	85004	X
Short Sale Express Pros (d/b/a for Pickford Real Estate, Inc.)	100%	HomeServices	12544 High Bluff Dr #420	San Diego	CA	92130	X
Sierra Gas Holdings Company	100%	NV Energy	6226 W. Sahara Ave.	Las Vegas	NV	89146	X
Sierra Pacific Power Company	100%	NV Energy	6226 W. Sahara Ave.	Las Vegas	NV	89146	X
Smart Energy Code Company Limited	100%	BHE	8 Fenchurch Place	London	England	EC3M 4AJ	X
Solar Star 3, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Solar Star Arizona Holding, LLC	100%	BHE	1850 N Central Ave	Phoenix	AZ	85004	X
Solar Star Arizona II Holding, LLC	100%	BHE	1850 N Central Ave	Phoenix	AZ	85004	X
Solar Star Arizona III Holding, LLC	100%	BHE	1850 N Central Ave	Phoenix	AZ	85004	X
Solar Star Arizona IV Holding, LLC	100%	BHE	1850 N Central Ave	Phoenix	AZ	85004	X
Solar Star California XIX, LLC	100%	BHE	1850 N Central Ave, Suite 1025	Phoenix	AZ	85004	X
Solar Star California XX, LLC	100%	BHE	1850 N Central Ave, Suite 1025	Phoenix	AZ	85004	X
Solar Star Funding, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Solar Star Projects Holding, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
South East PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
South Eastern PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
South PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
South West PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
South Western PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Southeastern Title, LLC (50% through Preferred Title, LLC)	20%	HomeServices	204 Commerce Court, Suite 2	Elkhorn	WI	53121	X
Southern PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Southwest Relocation, L.L.C.	100%	HomeServices	900 E. River Road, Suite 100	Tucson	AZ	85718	X
SSC XIX, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

SSC XX, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Success Learning Center (<i>d/b/a for IMO, Inc.</i>)	100%	HomeServices	3600 S. National Ave.	Springfield	MO	65807	X
Sundial Holding, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	
Sunrise Community Solar 1, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Sunrise Community Solar 2, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Sunrise Community Solar 3, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Sunrise Community Solar 4, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Sunrise Community Solar 5, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Sunrise Community Solar 6, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Sunrise Community Solar Gardens, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
TAMA Transmission LP	50%	BHE	110 12th Avenue SW	Calgary	Alberta, Canada	T2P 2M1	X
The Charitable Foundation (<i>d/b/a for Pickford Realty Cares</i>)		HomeServices	16820 Ventura Blvd, 2nd Floor	Encino	CA	91436	X
The Charitable Foundation, Inc.		HomeServices	16820 Ventura Blvd. Suite 201	Encino	CA	91436	X
The Escrow Firm, Inc.	100%	HomeServices	12544 High Bluff Drive, Suite 120	San Diego	CA	92130	X
The Intero Foundation, Inc.		HomeServices	10275 N De Anza Blvd	Cupertino	CA	95014	
The Referral Co.	100%	HomeServices	3501 Westown Parkway	West Des Moines	IA	50266	X
TIAC LLC	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
TitleSouth, LLC	100%	HomeServices	2501 20th Place South, Suite 420	Birmingham	AL	35223	X
TLTC LLC	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
Tongonan Power Investment, Inc.	100%	BHE	24th Floor, 6750 Building 6750 Ayala Avenue	Makati	Metro Manilla, Philippines	1226	X
Topaz Solar Farms LLC	100%	BHE	1850 N Central Ave	Phoenix	AZ	85004	X
Township Title Services, LLC	50%	HomeServices	532 East Paces Ferry, Ste 300	Atlanta	GA	30305	X
TPZ Holding, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Traditions Title Agency, LLC	49.9%	HomeServices	334 Beechwood Road, Suite 500	Ft. Mitchell	KY	41017	X
TransAlta MidAmerican Fort McMurray West Ltd.	50%	BHE	110 - 12th Avenue S.W.	Calgary	Alberta, Canada	T2R 0G7	X
TransAlta MidAmerican Partnership	50%	BHE	110 - 12th Avenue S.W.	Calgary	Alberta, Canada	T2R 0G7	X
TransCanyon DCR, LLC	50%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
TransCanyon, LLC	50%	BHE	666 Grand Avenue	Des Moines	IA	50309	X

**BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)**

Trapper Mining Inc.	21.4%	BHE	1407 West North Temple	Salt Lake City	UT	84116	X
Trident Insurance Agency Company LP	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
Trident Land Transfer Company (NJ) LLC	49%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
Trident Land Transfer Company (PHILA) LP	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
Trident Land Transfer Company LP	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
Trident Mortgage Company LP	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
Tri-State Real Estate School LP	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
TRMC LLC	100%	HomeServices	431 West Lancaster Avenue	Devon	PA	19333	X
Two Rivers Inc.	100%	BHE	150 South Oak Tree Lane	Dakota Dunes	SD	57049	X
TX Jumbo Road Wind, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Ursa Community Solar, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Ursa CSG1, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Ursa CSG10, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Ursa CSG2, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Ursa CSG3, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Ursa CSG4, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Ursa CSG5, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Ursa CSG6, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Ursa CSG7, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Ursa CSG8, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Ursa CSG9, LLC	100%	BHE	1850 N. Central Ave., Ste 1025	Phoenix	AZ	85004	X
Utah Power & Light Company (d/b/a for PacifiCorp)	100%	BHE	825 N.E. Multnomah, Suite 2000	Portland	OR	97232	
Utah Power & Light Inc. (d/b/a for PacifiCorp)	100%	BHE	825 N.E. Multnomah, Suite 2000	Portland	OR	97232	
Utah Power (d/b/a for PacifiCorp)	100%	BHE	1407 West North Temple	Salt Lake City	UT	84116	X
Vehicle Lease and Service Limited	50%	BHE	Northumbrian Way, Killingworth	Newcastle upon Tyne	England	NE12 6EH	X
Visayas Geothermal Power Company	100%	BHE	24th Floor, 6750 Building 6750 Ayala Avenue	Makati	Metro Manilla, Philippines	1226	
Vista Del Sol Title Agency (d/b/a for Long Title Agency, LLC)	55%	HomeServices	900 East River Rd., Suite 103	Tucson	AZ	85718	X
VLS Limited	100%	BHE	Northumbrian Way, Killingworth	Newcastle upon Tyne	England	NE12 6EH	

BERKSHIRE HATHAWAY ENERGY COMPANY
(10% and greater)

VPC Geothermal LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
Vulcan Power Company	100%	BHE	7001 Gentry Road	Calipatria	CA	92233	X
Vulcan/BN Geothermal Power Company	100%	BHE	7001 Gentry Road	Calipatria	CA	92233	X
Wahoo Title, LLC	51%	HomeServices	412 N. Linden Street, Suite D	Wahoo	NE	68066	X
Wailuku Holding Company, LLC	50%	BHE	335 Sioux Point Road, Suite 100	Dakota Dunes	SD	57049	X
Wailuku Investment, LLC	100%	BHE	335 Sioux Point Road, Suite 100	Dakota Dunes	SD	57049	X
Wailuku River Hydroelectric Limited Partnership	100%	BHE	335 Sioux Point Road, Suite 100	Dakota Dunes	SD	57049	X
Wailuku River Hydroelectric Power Company, Inc.	100%	BHE	335 Sioux Point Road, Suite 100	Dakota Dunes	SD	57049	X
Wakefield Reutlinger, REALTORS (d/b/a for HomeServices of Kentucky, Inc.)	100%	HomeServices	6511 Glenridge Park Place, Suite 10	Louisville	KY	40222	X
Walnut Ridge Wind, LLC	100%	BHE	666 Grand Avenue	Des Moines	IA	50309	X
West PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Western PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Wisconsin River Title Consultants LLC	50%	HomeServices	2728 Coho Street	Madison	WI	53713	X
Wood County Title, LLC	40%	HomeServices	739 Grand Avenue	Schofield	WI	54476	X
Woods Bros. Real Estate (d/b/a for HomeServices of Nebraska, Inc.)	100%	HomeServices	3355 Orwell, Suite 102	Lincoln	NE	68516	X
Woods Brothers (d/b/a for HomeServices of Nebraska, Inc.)	100%	HomeServices	3355 Orwell, Suite 102	Lincoln	NE	68516	X
Woods Brothers Real Estate (d/b/a for HomeServices of Nebraska, Inc.)	100%	HomeServices	3355 Orwell, Suite 102	Lincoln	NE	68516	X
YEDL Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Yorkshire Cayman Holding Limited	100%	BHE	PO Box 309, Ugland House Souoth Church Street	Georgetown, Grand Cayman	Cayman Islands		
Yorkshire Electricity Distribution Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Yorkshire Electricity Group plc	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Yorkshire Power Finance Limited	100%	BHE	PO Box 309, Ugland House Souoth Church Street	Georgetown, Grand Cayman	Cayman Islands		X
Yorkshire Power Group Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	X
Yorkshire PowerGrid Limited	100%	BHE	Lloyds Court, 78 Grey Street	Newcastle upon Tyne	England	NE1 6AF	
Yuma Cogeneration Associates	100%	BHE	280 North 27th Drive	Yuma	AZ	85364	X

Document Content(s)

FERC-65 SStatus Filing-10.08.15.PDF.....1-215

ATTACHMENT 3

Table of Assets

Berkshire Hathaway Parties and Energy Affiliates	Docket # Where MBR Granted	Generation Name	Owned By	Controlled By	Date Control Transferred	Market / Balancing Authority Area	Geographic Region	In-Service Date	Capacity Rating: Nameplate (MW)	Capacity Rating: Used in Filing (MW)	Capacity Rating: Methodology Used in [K]: (N)ameplate, (S)easonal, 5-yr (U)nit, 5-yr (E)IA, (A)lternative	End Note Number (Enter text in End Note Tab)
Bishop Hill Energy II LLC	ER12-162	Bishop Hill Wind	Bishop Hill Energy II LLC	Bishop Hill Energy II LLC	03/2012	MISO	Central	10/2012	81.0	81.0	N	
CalEnergy, LLC	ER13-1266	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	
CE Leathers Company	ER13-1267	Leathers Geothermal	CE Leathers Company	Southern California Edison Company ("SCE")	12/1994	IID	Southwest	11/1989	38.0	42.8	N	
CE Turbo LLC	[n/a]	CE Turbo Geothermal	CE Turbo LLC	Arizona Public Service Company ("APS")	[n/a]	IID	Southwest	07/2000	10.0	11.2	N	
Cordova Energy Co. LLC	ER99-2156	Cordova Energy Center Gas	Cordova Energy Co. LLC	Exelon Generation Company, LLC	[n/a]	PJM	Northeast	06/2001	611.0	521.2	S	
Del Ranch Company	ER13-1268	Del Ranch Geothermal	Del Ranch Company	SCE	12/1994	IID	Southwest	10/1988	38.0	42.8	N	
Elmore Company	ER13-1269	Elmore Geothermal	Elmore Company	SCE	12/1994	IID	Southwest	11/1988	38.0	42.8	N	
Grande Prairie Wind, LLC	[n/a]	Grande Prairie Wind	Grande Prairie Wind, LLC	Grande Prairie Wind, LLC	02/2015	SPP	SPP	12/2016	400.0	400.0	N	
Fish Lake Power LLC	ER13-1270	Salton Sea IV Geothermal	Salton Sea 4 Fish Lake Power Gen	SCE	12/1994	IID	Southwest	05/1996	40.0	42.8	N	
Marshall Wind Energy LLC	ER16-438	Marshall Wind	Marshall Wind Energy LLC	Marshall Wind Energy LLC	09/2015	SPP	SPP	05/2016	72.0	72.0	N	
Pinyon Pines Wind I, LLC	ER12-1521	Pinyon Pines Wind I	Pinyon Pines Wind I, LLC	SCE	11/2012	CAISO	Southwest	11/2012	168.0	168.0	N	
Pinyon Pines Wind II, LLC	ER12-1522	Pinyon Pines Wind II	Pinyon Pines Wind II, LLC	SCE	11/2012	CAISO	Southwest	11/2012	132.0	132.0	N	
Saranac Power Partners, L.P.	ER09-768	Saranac Gas	Saranac Power Partners, L.P.	Saranac Power Partners, L.P.	12/1994	NYISO	Northeast	06/1994	255.8	251.6	S	
Salton Sea Power Generation Co.	ER13-1271	Salton Sea I Geothermal	Salton Sea Power Generation	SCE	12/1994	IID	Southwest	07/1982	10.0	10.2	N	
Salton Sea Power Generation Co.	ER13-1271	Salton Sea II Geothermal	Salton Sea Power Generation	SCE	12/1994	IID	Southwest	03/1990	20.0	17.3	N	
Salton Sea Power Generation Co.	ER13-1271	Salton Sea III Geothermal	Salton Sea Power Generation	SCE	12/1994	IID	Southwest	02/1989	50.0	51.0	N	
Salton Sea Power L.L.C.	ER13-1272	Salton Sea V Geothermal	Salton Sea Power LLC	City of Riverside, California	[n/a]	IID	Southwest	04/2000	49.0	46.9	N	
Solar Star California XIX, LLC	ER13-1441	Solar Star 1	Solar Star California XIX, LLC	SCE	01/2013	CAISO	Southwest	03/2014	310.0	310.0	N	
Solar Star California XX, LLC	ER13-1442	Solar Star 2	Solar Star California XX, LLC	SCE	01/2013	CAISO	Southwest	03/2014	276.0	276.0	N	
Topaz Solar Farms LLC	ER12-1626	Topaz Solar	Topaz Solar Farms LLC	Pacific Gas & Electric Company	12/2011	CAISO	Southwest	04/2013	550.0	550.0	N	
Vulcan/BN Geothermal Power Co.	ER13-1273	Vulcan Geothermal	Vulcan/BN Geothermal Power Co.	SCE	12/1994	IID	Southwest	12/1985	34.0	38.8	N	
Yuma Cogeneration Assoc.	ER07-1236	Yuma Gas	Yuma Cogeneration Assoc.	San Diego Gas & Electric Company	11/1992	APS	Southwest	03/1994	55.0	52.3	S	
MidAmerican Energy Company ("MEC")	ER96-719	Adair Wind	MEC	MEC	[n/a]	MISO	Central	12/2008	174.8	174.8	N	
MEC	ER96-719	Carroll Wind	MEC	MEC	[n/a]	MISO	Central	12/2008	150.0	150.0	N	
MEC	ER96-719	Century Expansion Wind	MEC	MEC	[n/a]	MISO	Central	12/2007	15.0	15.0	N	
MEC	ER96-719	Century Wind	MEC	MEC	[n/a]	MISO	Central	09/2005	185.0	185.0	N	
MEC	ER96-719	Charles City Wind	MEC	MEC	[n/a]	MISO	Central	04/2008	75.0	75.0	N	
MEC	ER96-719	Coralville CT Gas	MEC	MEC	[n/a]	MISO	Central	06/1970	72.0	65.7	S	
MEC	ER96-719	Eclipse Wind	MEC	MEC	[n/a]	MISO	Central	09/2012	200.0	200.0	N	
MEC	ER96-719	Electrifarm CT 1 Gas	MEC	MEC	[n/a]	MISO	Central	05/1975	71.2	56.2	S	

Berkshire Hathaway Parties and Energy Affiliates	Docket # Where MBR Granted	Generation Name	Owned By	Controlled By	Date Control Transferred	Market / Balancing Authority Area	Geographic Region	In-Service Date	Capacity Rating: Nameplate (MW)	Capacity Rating: Used in Filing (MW)	Capacity Rating: Methodology Used in [K]: (N)ameplate, (S)easonal, 5-yr (U)nit, 5-yr (E)IA, (A)lternative	End Note Number (Enter text in End Note Tab)
MEC	ER96-719	Electrifarm CT 2 Gas	MEC	MEC	[n/a]	MISO	Central	01/1978	89.0	64.9	S	
MEC	ER96-719	Electrifarm CT 3 Gas	MEC	MEC	[n/a]	MISO	Central	01/1978	103.9	68.8	S	
MEC	ER96-719	Greater Des Moines Energy Center Gas	MEC	MEC	[n/a]	MISO	Central	12/2004	576.3	486.2	S	
MEC	ER96-719	Intrepid Wind	MEC	MEC	[n/a]	MISO	Central	12/2004	175.5	175.5	N	
MEC	ER96-719	Intrepid Wind II	MEC	MEC	[n/a]	MISO	Central	12/2005	15.0	15.0	N	
MEC	ER96-719	Laurel Wind	MEC	MEC	[n/a]	MISO	Central	12/2011	119.6	119.6	N	
MEC	ER96-719	Louisa Coal	MEC	MEC	[n/a]	MISO	Central	10/1983	714.47	650.7	S	5
MEC	ER96-719	Lundgren Wind	MEC	MEC	[n/a]	MISO	Central	08/2014	251.0	251.0	N	
MEC	ER96-719	Macksburg Wind	MEC	MEC	[n/a]	MISO	Central	12/2014	119.6	119.6	N	
MEC	ER96-719	Merle Parr CT Gas	MEC	MEC	[n/a]	MISO	Central	05/1969	36.0	33.2	S	
MEC	ER96-719	Miscellaneous Diesel Oil	MEC	MEC	[n/a]	MISO	Central	04/2000	56.0	56.0	N	
MEC	ER96-719	Moline CT Gas	MEC	MEC	[n/a]	MISO	Central	05/1970	72.0	64.0	S	
MEC	ER96-719	Moline Hydro	MEC	MEC	[n/a]	MISO	Central	01/1942	3.6	0.4	S	
MEC	ER96-719	Morninglight Wind	MEC	MEC	[n/a]	MISO	Central	10/2012	101.2	101.0	N	
MEC	ER96-719	Neal 3 Coal	MEC	MEC	[n/a]	MISO	Central	05/1975	420.55	370.4	S	5
MEC	ER96-719	Neal 4 Coal	MEC	MEC	[n/a]	MISO	Central	07/1979	282.33	261.7	S	5
MEC	ER96-719	Ottumwa Coal	MEC	MEC	[n/a]	MISO	Central	05/1981	377.47	379.6	S	5
MEC	ER96-719	Pleasant Hill CT 1-2 Gas	MEC	MEC	[n/a]	MISO	Central	06/1990	82.8	77.3	S	
MEC	ER96-719	Pleasant Hill CT 3 Gas	MEC	MEC	[n/a]	MISO	Central	06/1994	97.0	83.0	S	
MEC	ER96-719	Pomeroy 1 Wind	MEC	MEC	[n/a]	MISO	Central	12/2007	123.0	123.0	N	
MEC	ER96-719	Pomeroy II Wind	MEC	MEC	[n/a]	MISO	Central	12/2007	75.0	75.0	N	
MEC	ER96-719	Pomeroy III Wind	MEC	MEC	[n/a]	MISO	Central	12/2008	58.5	58.5	N	
MEC	ER96-719	Pomeroy IV Wind	MEC	MEC	[n/a]	MISO	Central	08/2011	29.9	29.9	N	
MEC	ER96-719	Quad Cities 1-2 Nuclear	MEC	MEC	[n/a]	PJM	Northeast	12/1972	504.65	456.3	S	5
MEC	ER96-719	River Hills CT 1-4 Gas	MEC	MEC	[n/a]	MISO	Central	05/1966	64.0	57.7	S	
MEC	ER96-719	River Hills CT 5-6 Gas	MEC	MEC	[n/a]	MISO	Central	10/1967	32.0	29.1	S	
MEC	ER96-719	River Hills CT 7-8 Gas	MEC	MEC	[n/a]	MISO	Central	04/1968	32.0	31.0	S	
MEC	ER96-719	Riverside 5 Gas	MEC	MEC	[n/a]	MISO	Central	06/1961	136.0	127.9	S	
MEC	ER96-719	Rolling Hills Wind	MEC	MEC	[n/a]	MISO	Central	12/2011	443.9	443.9	N	
MEC	ER96-719	Sycamore CT 1 Gas	MEC	MEC	[n/a]	MISO	Central	08/1974	78.8	74.2	S	
MEC	ER96-719	Sycamore CT 2 Gas	MEC	MEC	[n/a]	MISO	Central	11/1974	78.8	72.6	S	
MEC	ER96-719	Victory Wind	MEC	MEC	[n/a]	MISO	Central	12/2006	99.0	99.0	N	
MEC	ER96-719	Vienna Wind	MEC	MEC	[n/a]	MISO	Central	11/2012	105.6	105.6	N	
MEC	ER96-719	Vienna Wind II	MEC	MEC	[n/a]	MISO	Central	12/2013	44.6	44.6	N	
MEC	ER96-719	Walnut Wind	MEC	MEC	[n/a]	MISO	Central	12/2008	153.0	153.0	N	
MEC	ER96-719	Walter Scott 3 Coal	MEC	MEC	[n/a]	MISO	Central	12/1978	574.11	554.5	S	5
MEC	ER96-719	Walter Scott 4 Coal	MEC	MEC	[n/a]	MISO	Central	06/2007	550.36	486.9	S	5
MEC	ER96-719	Wellsburg Wind	MEC	MEC	[n/a]	MISO	Central	12/2014	140.8	140.8	N	
MEC	ER96-719	Highland I Wind	MEC	MEC	[n/a]	MISO	Central	12/2015	495.0	495.0	N	
MEC	ER96-719	Highland II Wind	MEC	MEC	[n/a]	MISO	Central	12/2015	7.0	7.0	N	
MEC	ER96-719	Adams County Wind	MEC	MEC	[n/a]	MISO	Central	12/2015	154.3	154.3	N	
MEC	ER96-719	O'Brien County I Wind	MEC	MEC	[n/a]	MISO	Central	09/2016	250.3	250.3	N	
MEC	ER96-719	O'Brien County II Wind	MEC	MEC	[n/a]	MISO	Central	12/2016	108.7	108.7	N	
MEC	ER96-719	O'Brien County III Wind	MEC	MEC	[n/a]	MISO	Central	12/2016	79.7	79.7	N	

Berkshire Hathaway Parties and Energy Affiliates	Docket # Where MBR Granted	Generation Name	Owned By	Controlled By	Date Control Transferred	Market / Balancing Authority Area	Geographic Region	In-Service Date	Capacity Rating: Nameplate (MW)	Capacity Rating: Used in Filing (MW)	Capacity Rating: Methodology Used in [K]: (N)ameplate, (S)easonal, 5-yr (U)nited, 5-yr (E)IA, (A)lternative	End Note Number (Enter text in End Note Tab)
MEC	ER96-719	Ida Grove Wind	MEC	MEC	[n/a]	MISO	Central	12/2016	301.0	301.0	N	
MEC	ER96-719	Beaver Creek Wind	MEC	MEC	[n/a]	MISO	Central	12/2017	170.0	170.0	N	2
MEC	ER96-719	Prairie Wind	MEC	MEC	[n/a]	MISO	Central	12/2017	168.0	168.0	N	2
MEC	ER96-719	English Farms Wind	MEC	MEC	[n/a]	MISO	Central	11/2018	340.0	340.0	N	2
MEC	ER96-719	Palo Alto Wind	MEC	MEC	[n/a]	MISO	Central	11/2018	340.0	340.0	N	2
MEC	ER96-719	Orient Wind	MEC	MEC	[n/a]	MISO	Central	12/2019	482.0	482.0	N	2
MEC	ER96-719	Plum Creek Wind	MEC	MEC	[n/a]	MISO	Central	12/2019	500.0	500.0	N	2
MidAmerican Energy Services, LLC	ER15-2211	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	
Nevada Power Company ("NPC")	ER01-1529	Chuck Lenzie 1	NPC	NPC	10/2005	NEVP	Northwest	10/2005	732.8	585.0	S	
NPC	ER01-1529	Chuck Lenzie 2	NPC	NPC	11/2005	NEVP	Northwest	11/2005	732.8	585.0	S	
NPC	ER01-1529	Silverhawk 1	NPC	NPC	01/2006	NEVP	Northwest	05/2004	664.7	560.0	S	8
NPC	ER01-1529	Clark GT4	NPC	NPC	06/1973	NEVP	Northwest	06/1973	72.4	55.0	S	
NPC	ER01-1529	Clark GT5	NPC	NPC	05/1979	NEVP	Northwest	05/1979	92.5	73.0	S	
NPC	ER01-1529	Clark GT6	NPC	NPC	05/1979	NEVP	Northwest	05/1979	92.5	73.0	S	
NPC	ER01-1529	Clark GT7	NPC	NPC	06/1980	NEVP	Northwest	06/1980	92.5	73.0	S	
NPC	ER01-1529	Clark GT8	NPC	NPC	06/1982	NEVP	Northwest	06/1982	92.5	73.0	S	
NPC	ER01-1529	Clark 9	NPC	NPC	05/1993	NEVP	Northwest	05/1993	104.4	85.0	S	
NPC	ER01-1529	Clark 10	NPC	NPC	05/1994	NEVP	Northwest	05/1994	104.4	85.0	S	
NPC	ER01-1529	Clark GT 11-14	NPC	NPC	04/2008	NEVP	Northwest	04/2008	242.0	208.0	S	
NPC	ER01-1529	Clark GT 15-18	NPC	NPC	06/2008	NEVP	Northwest	06/2008	242.0	208.0	S	
NPC	ER01-1529	Clark GT 19-22	NPC	NPC	06/2008	NEVP	Northwest	06/2008	240.9	208.0	S	
NPC	ER01-1529	Harry Allen GT3	NPC	NPC	05/1995	NEVP	Northwest	05/1995	101.5	74.0	S	
NPC	ER01-1529	Harry Allen GT4	NPC	NPC	04/2006	NEVP	Northwest	04/2006	85.0	74.0	S	
NPC	ER01-1529	Harry Allen CC	NPC	NPC	01/2011	NEVP	Northwest	01/2011	558.5	510.0	S	
NPC	ER01-1529	Las Vegas Cogen I	NPC	NPC	12/2014	NEVP	Northwest	06/2008	61.3	48.0	S	
NPC	ER01-1529	Las Vegas Cogen II	NPC	NPC	12/2014	NEVP	Northwest	04/2004	297.5	224.0	S	
NPC	ER01-1529	SunPeak GT3-GT5	NPC	NPC	12/2014	NEVP	Northwest	06/1991	294.4	216.0	S	
NPC	ER01-1529	Navajo 1	NPC	NPC	05/1974	NEVP	Southwest	05/1974	803.1	750.0	S	10
NPC	ER01-1529	Navajo 2	NPC	NPC	04/1975	NEVP	Southwest	04/1975	803.1	750.0	S	10
NPC	ER01-1529	Navajo 3	NPC	NPC	04/1976	NEVP	Southwest	04/1976	803.1	750.0	S	10
NPC	ER01-1529	Higgins, Walter M. III	NPC	NPC	10/2008	NEVP	Northwest	02/2004	688.4	550.0	S	
NPC	ER01-1529	Goodsprings	NPC	NPC	11/2010	NEVP	Northwest	11/2010	7.5	6.5	S	
NPC	ER01-1529	Nellis Solar	NPC	NPC	11/2015	NEVP	Northwest	11/2015	15.0	14.0	N	
PacifiCorp	ER97-2801	Ashton Hydro	PacifiCorp	PacifiCorp	01/1917	PACE	Northwest	01/1917	6.7	3.5	U	1
PacifiCorp	ER97-2801	Bigfork Hydro	PacifiCorp	PacifiCorp	01/1910	PACE	Northwest	01/1910	4.15	4.6	U	1
PacifiCorp	ER97-2801	Black Cap Solar, LLC	PacifiCorp	PacifiCorp	10/2012	PACE	Northwest	10/2012	2.00	2.0	S	19
PacifiCorp	ER97-2801	Blundell Geothermal	PacifiCorp	PacifiCorp	07/1984	PACE	Northwest	07/1984	38.1	34.0	S	1, 6
PacifiCorp	ER97-2801	Cholla Coal Unit 4	PacifiCorp	PacifiCorp	06/1981	PACE	Northwest	06/1981	414.0	380.0	S	6
PacifiCorp	ER97-2801	Currant Creek Gas	PacifiCorp	PacifiCorp	06/2005	PACE	Northwest	06/2005	566.9	524.2	S	6
PacifiCorp	ER97-2801	Cutler Hydro	PacifiCorp	PacifiCorp	01/1927	PACE	Northwest	01/1927	30.0	10.1	U	
PacifiCorp	ER97-2801	Dave Johnston Coal	PacifiCorp	PacifiCorp	02/1959	PACE	Northwest	02/1959	816.8	760.0	S	1, 6
PacifiCorp	ER97-2801	Dunlap Ranch Wind	PacifiCorp	PacifiCorp	10/2010	PACE	Northwest	10/2010	111.0	30.9	E	
PacifiCorp	ER97-2801	Foote Creek Wind	PacifiCorp	PacifiCorp	04/1999	PACE	Northwest	04/1999	43.4	8.2	U	13
PacifiCorp	ER97-2801	Gadsby Gas	PacifiCorp	PacifiCorp	09/1951	PACE	Northwest	09/1951	432.7	354.5	S	1, 6

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PacifiCorp	ER97-2801	Glenrock Wind 1 & 3	PacifiCorp	PacifiCorp	12/2008	PACE	Northwest	12/2008	138.0	31.6	U	1
PacifiCorp	ER97-2801	Grace Hydro	PacifiCorp	PacifiCorp	01/1908	PACE	Northwest	01/1908	33.0	13.9	U	1
PacifiCorp	ER97-2801	Granite Hydro	PacifiCorp	PacifiCorp	01/1900	PACE	Northwest	01/1900	2.0	1.0	U	
PacifiCorp	ER97-2801	Gunlock Hydro	PacifiCorp	PacifiCorp	01/1917	PACE	Northwest	01/1917	0.75	0.4	E	
PacifiCorp	ER97-2801	High Plains Wind	PacifiCorp	PacifiCorp	09/2009	PACE	Northwest	09/2009	99.0	21.7	U	
PacifiCorp	ER97-2801	Hunter Coal	PacifiCorp	PacifiCorp	06/1978	PACE	Northwest	06/1978	1577.2	1361.0	S	14
PacifiCorp	ER97-2801	Huntington Coal	PacifiCorp	PacifiCorp	07/1974	PACE	Northwest	07/1974	996.0	909.0	S	6
PacifiCorp	ER97-2801	Lake Side Gas	PacifiCorp	PacifiCorp	09/2007	PACE	Northwest	09/2007	591.3	547.0	S	6
PacifiCorp	ER97-2801	Lake Side 2 Gas	PacifiCorp	PacifiCorp	05/2014	PACE	Northwest	05/2014	655.2	629.0	S	6
PacifiCorp	ER97-2801	Last Chance Hydro	PacifiCorp	PacifiCorp	02/1984	PACE	Northwest	02/1984	1.73	0.7	U	
PacifiCorp	ER97-2801	McFadden Ridge Wind	PacifiCorp	PacifiCorp	09/2009	PACE	Northwest	09/2009	28.5	6.8	U	
PacifiCorp	ER97-2801	Naughton Coal	PacifiCorp	PacifiCorp	05/1963	PACE	Northwest	05/1963	707.2	637.0	S	1, 6
PacifiCorp	ER97-2801	Oneida Hydro	PacifiCorp	PacifiCorp	01/1915	PACE	Northwest	01/1915	30.0	6.0	U	1
PacifiCorp	ER97-2801	Paris Hydro	PacifiCorp	PacifiCorp	01/1910	PACE	Northwest	01/1910	0.72	0.3	E	
PacifiCorp	ER97-2801	Pioneer Hydro	PacifiCorp	PacifiCorp	01/1914	PACE	Northwest	01/1914	5.0	2.3	E	
PacifiCorp	ER97-2801	Rolling Hills Wind	PacifiCorp	PacifiCorp	01/2009	PACE	Northwest	01/2009	99.0	4.6	U	
PacifiCorp	ER97-2801	Sand Cove Hydro	PacifiCorp	PacifiCorp	01/1920	PACE	Northwest	01/1920	0.8	0.4	E	
PacifiCorp	ER97-2801	Seven Mile Hill Wind 1 & 2	PacifiCorp	PacifiCorp	12/2008	PACE	Northwest	12/2008	118.5	28.9	U	
PacifiCorp	ER97-2801	Soda Hydro	PacifiCorp	PacifiCorp	01/1924	PACE	Northwest	01/1924	14.45	3.2	U	
PacifiCorp	ER97-2801	Stairs Hydro	PacifiCorp	PacifiCorp	01/1914	PACE	Northwest	01/1914	1.0	0.8	U	
PacifiCorp	ER97-2801	Veyo Hydro	PacifiCorp	PacifiCorp	01/1920	PACE	Northwest	01/1920	0.5	0.2	E	
PacifiCorp	ER97-2801	Viva Naughton Hydro	PacifiCorp	PacifiCorp	04/1986	PACE	Northwest	04/1986	0.74	0.3	E	
PacifiCorp	ER97-2801	Weber Hydro	PacifiCorp	PacifiCorp	01/1949	PACE	Northwest	01/1949	3.85	2.0	U	
PacifiCorp	ER97-2801	Wyodak Coal	PacifiCorp	PacifiCorp	09/1978	PACE	Northwest	09/1978	402.3	332.0	S	15
PacifiCorp	ER97-2801	Bend Hydro	PacifiCorp	PacifiCorp	01/1913	PACW	Northwest	01/1913	1.11	0.3	U	1
PacifiCorp	ER97-2801	Clearwater 1 Hydro	PacifiCorp	PacifiCorp	06/1953	PACW	Northwest	06/1953	15.0	3.7	U	
PacifiCorp	ER97-2801	Clearwater 2 Hydro	PacifiCorp	PacifiCorp	11/1953	PACW	Northwest	11/1953	26.0	6.4	U	
PacifiCorp	ER97-2801	Colstrip Coal	PacifiCorp	PacifiCorp	01/1984	PACW	Northwest	01/1984	1556.0	1480.0	S	1, 12
PacifiCorp	ER97-2801	Copco 1 Hydro	PacifiCorp	PacifiCorp	01/1918	PACW	Northwest	01/1918	20.0	13.2	U	1
PacifiCorp	ER97-2801	Copco 2 Hydro	PacifiCorp	PacifiCorp	07/1925	PACW	Northwest	07/1925	27.0	16.0	U	1
PacifiCorp	ER97-2801	Eagle Point Hydro	PacifiCorp	PacifiCorp	11/1957	PACW	Northwest	11/1957	2.81	1.9	U	
PacifiCorp	ER97-2801	East Side Hydro	PacifiCorp	PacifiCorp	08/1924	PACW	Northwest	08/1924	3.2	1.4	E	
PacifiCorp	ER97-2801	Fall Creek Hydro	PacifiCorp	PacifiCorp	09/1903	PACW	Northwest	09/1903	2.2	1.6	U	1
PacifiCorp	ER97-2801	Fish Creek Hydro	PacifiCorp	PacifiCorp	06/1952	PACW	Northwest	06/1952	11.0	3.8	U	
PacifiCorp	ER97-2801	Goodnoe Hills Wind	PacifiCorp	PacifiCorp	05/2008	PACW	Northwest	05/2008	94.0	28.2	E	
PacifiCorp	ER97-2801	Hermiston Gas	PacifiCorp	PacifiCorp	07/1996	PACW	Northwest	07/1996	621.2	464.0	S	16
PacifiCorp	ER97-2801	Iron Gate Hydro	PacifiCorp	PacifiCorp	02/1962	PACW	Northwest	02/1962	18.0	15.7	U	
PacifiCorp	ER97-2801	Jim Bridger Coal	PacifiCorp	PacifiCorp	11/1974	PACW	Northwest	11/1974	2441.9	2111.0	S	1, 17
PacifiCorp	ER97-2801	John C Boyle Hydro	PacifiCorp	PacifiCorp	10/1958	PACW	Northwest	10/1958	97.98	29.0	U	1
PacifiCorp	ER97-2801	Leaning Juniper Wind	PacifiCorp	PacifiCorp	09/2006	PACW	Northwest	09/2006	100.5	32.6	E	
PacifiCorp	ER97-2801	Lemolo 1 Hydro	PacifiCorp	PacifiCorp	07/1955	PACW	Northwest	07/1955	31.99	17.6	U	
PacifiCorp	ER97-2801	Lemolo 2 Hydro	PacifiCorp	PacifiCorp	11/1956	PACW	Northwest	11/1956	38.5	21.2	U	
PacifiCorp	ER97-2801	Marengo Wind 1 & 2	PacifiCorp	PacifiCorp	08/2007	PACW	Northwest	08/2007	210.6	58.7	U	
PacifiCorp	ER97-2801	Merwin Hydro	PacifiCorp	PacifiCorp	06/2008	PACW	Northwest	01/1932	136.0	80.5	U	
PacifiCorp	ER97-2801	Prospect 1 Hydro	PacifiCorp	PacifiCorp	01/1912	PACW	Northwest	01/1912	3.76	2.6	U	
PacifiCorp	ER97-2801	Prospect 2 Hydro	PacifiCorp	PacifiCorp	02/1928	PACW	Northwest	02/1928	32.0	20.3	U	

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PacifiCorp	ER97-2801	Prospect 3 Hydro	PacifiCorp	PacifiCorp	04/1932	PACW	Northwest	04/1932	7.2	4.3	U	
PacifiCorp	ER97-2801	Prospect 4 Hydro	PacifiCorp	PacifiCorp	11/1944	PACW	Northwest	11/1944	1.0	0.5	U	
PacifiCorp	ER97-2801	Slide Creek Hydro	PacifiCorp	PacifiCorp	07/1951	PACW	Northwest	07/1951	18.0	7.5	U	
PacifiCorp	ER97-2801	Soda Springs Hydro	PacifiCorp	PacifiCorp	03/1952	PACW	Northwest	03/1952	11.0	6.4	U	
PacifiCorp	ER97-2801	Swift 1 Hydro	PacifiCorp	PacifiCorp	12/1958	PACW	Northwest	12/1958	240.0	52.2	U	
PacifiCorp	ER97-2801	Toketee Hydro	PacifiCorp	PacifiCorp	03/1950	PACW	Northwest	12/1949	42.5	25.3	U	
PacifiCorp	ER97-2801	Wallowa Falls Hydro	PacifiCorp	PacifiCorp	01/1921	PACW	Northwest	01/1921	1.1	0.7	U	
PacifiCorp	ER97-2801	West Side Hydro	PacifiCorp	PacifiCorp	10/1908	PACW	Northwest	10/1908	0.6	0.3	E	
PacifiCorp	ER97-2801	Yale Hydro	PacifiCorp	PacifiCorp	09/1953	PACW	Northwest	09/1953	134.0	86.5	U	1
PacifiCorp	ER97-2801	Chehalis Gas	PacifiCorp	PacifiCorp	09/2008	BPA	Northwest	03/2008	593.3	477.0	S	6
PacifiCorp	ER97-2801	Hayden Coal	PacifiCorp	PacifiCorp	07/1965	PSCO	Northwest	07/1965	465.4	446.0	S	1, 18
PacifiCorp	ER97-2801	Craig Coal	PacifiCorp	PacifiCorp	11/1979	WACM	Northwest	11/1979	1427.6	1304.0	S	1, 11
Sierra Pacific Power Company ("SPPC")	ER01-1527	Fort Churchill 1	SPPC	SPPC	09/1968	NEVP	Northwest	09/1968	115.0	113.0	S	
SPPC	ER01-1527	Fort Churchill 2	SPPC	SPPC	09/1971	NEVP	Northwest	09/1971	115.0	113.0	S	
SPPC	ER01-1527	Tracy 3	SPPC	SPPC	10/1974	NEVP	Northwest	10/1974	119.8	108.0	S	
SPPC	ER01-1527	Tracy 4 & 5	SPPC	SPPC	12/1996	NEVP	Northwest	12/1996	119.9	104.0	S	
SPPC	ER01-1527	Tracy CC	SPPC	SPPC	02/2008	NEVP	Northwest	02/2008	623.2	553.0	S	
SPPC	ER01-1527	Tracy GT3	SPPC	SPPC	07/1994	NEVP	Northwest	07/1994	85.0	66.3	S	
SPPC	ER01-1527	Tracy GT4	SPPC	SPPC	07/1994	NEVP	Northwest	07/1994	85.0	66.3	S	
SPPC	ER01-1527	Valmy 1	SPPC/IPC	SPPC/IPC	12/1981	NEVP	Northwest	12/1981	277.2	254.0	S	9
SPPC	ER01-1527	Valmy 2	SPPC/IPC	SPPC/IPC	05/1985	NEVP	Northwest	05/1985	289.8	268.0	S	9

MidAmerican Energy Company and its Energy Affiliates	Cite to Order Accepting OATT or Approving Transfer to ISO/RTO	Asset Name and Use	Owned By	Controlled By	Date Control Transferred	Location		Size	End Note Number
						Balancing Authority Area	Geographic Region		
Bishop Hill Interconnection LLC	138 FERC ¶ 61,159	138 Kilovolt Transmission Line	Bishop Hill Interconnection LLC	Bishop Hill Interconnection LLC	[n/a]	MISO	Central	28 pole miles	
MEC	128 FERC ¶ 61,046	345 Kilovolt Transmission Lines	MEC	MISO	2009	MISO	Central	969 line miles	20, 21, 24
MEC	128 FERC ¶ 61,046	161 Kilovolt Transmission Lines	MEC	MISO	2009	MISO	Central	1,390 line miles	20, 21, 24
MEC	128 FERC ¶ 61,046	69 Kilovolt Transmission Lines	MEC	MEC	[n/a]	MISO	Central	1,398 line miles	20, 22
NPC	80 FERC ¶ 61,143	Transmission Lines from 69 kV to 500 kV	NPC	NPC	[n/a]	NEVP	Northwest	1,725 line miles	
NPC/SPPC	80 FERC ¶ 61,143 / 77 FERC ¶ 61,266	500 kV One Nevada Transmission Line	NPC/SPPC and Great Basin Transmission, LLC	NPC	2014	NEVP	Northwest	231 line miles	
PacifiCorp	ER10-2562-000 (October 29, 2010)	500 Kilovolt Transmission Lines	PacifiCorp	PacifiCorp	[n/a]	PACE, PACW	Northwest	1,212 pole miles	20
PacifiCorp	ER10-2562-000 (October 29, 2010)	345 Kilovolt Transmission Lines	PacifiCorp	PacifiCorp	[n/a]	PACE, PACW, Idaho Power	Northwest	3,020 pole miles	20
PacifiCorp	ER10-2562-000 (October 29, 2010)	230 Kilovolt Transmission Lines	PacifiCorp	PacifiCorp	[n/a]	PACE, PACW	Northwest	3,344 pole miles	20
PacifiCorp	ER10-2562-000 (October 29, 2010)	161 Kilovolt Transmission Lines	PacifiCorp	PacifiCorp	[n/a]	PACE, PACW	Northwest	364 pole miles	20
PacifiCorp	ER10-2562-000 (October 29, 2010)	138 Kilovolt Transmission Lines	PacifiCorp	PacifiCorp	[n/a]	PACE, PACW	Northwest	2,302 pole miles	20
SPPC	77 FERC ¶ 61,266	Transmission Lines from 60kV to 345 kV	SPPC	SPPC	[n/a]	NEVP	Northwest	2,151 line miles	
Saranac Power Partners, L.P.	[n/a]	Intrastate Pipeline	North Country Gas Pipeline Corporation	North Country Gas Pipeline Corporation	[n/a]	NYISO	Northeast	22 miles	
Prairie Wind Transmission, LLC	[n/a]	345 Kilovolt Transmission Line	Prairie Wind Transmission, LLC	SPP	2014	SPP	Southwest	108 miles	

End Note Number	Sheet (Generation, PPA, or Transmission/Natural	Explanatory Note
1	Generation	Where the facility was placed in service in different years, the In-Service date indicates the first year of service.
2	Generation	Under construction or development with expected in-service date shown in Column I.
3	Generation	Reserved
4	Generation	Reserved
5	Generation	For these jointly owned units, the amount of capacity provided in Column K is the amount owned by the relevant Berkshire Hathaway Party.
6	Generation	PacifiCorp has rights to the nameplate capacity of these jointly owned units provided in Column J.
7	PPA	PPA may be sourced from market, source may be unknown.
8	Generation	Reserved
9	Generation	SPPC owns 50% of this facility, which is 138.6MW Nameplate (127MW Seasonal) for North Valmy 1 and 144.9MW Nameplate (134MW Seasonal) for North Valmy 2.
10	Generation	NPC owns 11.3% of this facility, which is 90.75MW Nameplate (84.8MW Seasonal)
11	Generation	PacifiCorp owns 19.29% of Units 1 and 2 or 164MW
12	Generation	PacifiCorp owns 10% of Units 3 and 4 or 148MW
13	Generation	PacifiCorp owns 79% of this facility
14	Generation	PacifiCorp owns 93.75% of Unit 1 (442.7 MW), 60.31% of Unit 2 (258 MW) and 100% of Unit 3 (460 MW)
15	Generation	PacifiCorp owns 80% of this facility
16	Generation	PacifiCorp owns 50% of this facility
17	Generation	PacifiCorp owns 66.7% of this facility
18	Generation	PacifiCorp owns 25% of Unit 1 (46 MW) and 13% of Unit 2 (34.1 MW)
19	Generation	PacifiCorp owns this generation, but leases it to a third-party and has no rights to the output. Nevertheless, the output is conservatively assigned to PacifiCorp in MISO's capacity market.
20	Transmission	For jointly-owned lines, includes only the equivalent line miles of the Berkshire Hathaway Party's ownership interests.
21	Transmission	Excludes jointly-owned lines operated by another transmission owner in MISO.
22	Transmission	Functional control of 32 line miles of 69 kV line was transferred to MISO in 2014. The remaining 69 kV line miles have not been transferred to MISO's functional control.
23	PPA	PacifiCorp may receive this energy in multiple BA's including PACE and AZPS.
24	Transmission	Reflects the transactions authorized by the Commission in its Orders issued in Docket Nos. EC17-50 and EC17-51 (ITC Midwest LLC, 158 FERC ¶ 62,037 (Jan. 19, 2017)) and EC17-52 (Jarvis Energy Company, 158 FERC ¶ 62,038 (January 19, 2017)).

ATTACHMENT 4

Form of Protective Agreement

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Nevada Power Co.	)	Docket No. ER17-_____-000
Sierra Pacific Power Co.	)	Docket No. ER17-_____-000
PacifiCorp	)	Docket No. ER17-_____-000

PROTECTIVE AGREEMENT

This Protective Agreement (“Agreement”) is entered into this ____ day of _____, 20__ by and between PacifiCorp, Nevada Power Company, and Sierra Pacific Power Company (each an “Applicant” and together “Applicants”) and _____ (“Intervenor”), and shall govern the use of all Protected Materials produced by Applicants to Intervenor, or vice versa, in connection with the proceeding before the Federal Energy Regulatory Commission (the “Commission”) in Docket No. ER17-____-000. Applicants and Intervenor are sometimes referred to herein individually as a “Party” or jointly as the “Parties.”

1. Applicants filed Protected Materials in the above-referenced Commission proceeding and Intervenor is a Participant in such proceeding, as the term Participant is defined in 18 C.F.R. § 385.102(b), or has filed a motion to intervene or a notice of intervention in such proceeding. Applicant and Intervenor enter into this Agreement in accordance with their respective rights and obligations set forth in 18 C.F.R. § 388.112(b)(2). Notwithstanding any order terminating such proceeding, this Agreement shall remain in effect until specifically modified or terminated by the Federal Energy Regulatory Commission (“Commission”) or court of competent jurisdiction.

2. This Agreement applies to the following two general categories of Protected Materials: (A) A Party may designate as protected those materials which customarily are treated by that Party as sensitive or proprietary, which are not available to the public, and which, if disclosed freely, would subject that Party or its customers to risk of competitive disadvantage or other business injury; and (B) A Party shall designate as protected those materials which contain critical energy infrastructure information, as defined in 18 C.F.R. § 388.113(c)(1) (“Critical Energy Infrastructure Information”).

3. Definitions -- For purposes of this Agreement:

(a) (1) The term “Protected Materials” means (A) materials provided by a Party in association with this proceeding and designated by such Party as protected; (B) any information contained in or obtained from such designated materials; (C) notes of Protected Materials; and (D) copies of Protected Materials. The Party producing the Protected Materials shall physically mark them on each page as “PROTECTED MATERIALS” or with words of similar import as long as the term “Protected Materials” is included in that designation to indicate that they are Protected Materials. If the Protected Materials contain Critical Energy Infrastructure Information, the Party producing such information shall additionally mark on each page

containing such information the words “Contains Critical Energy Infrastructure Information - Do Not Release”. If the Protected Materials contain market sensitive information, public disclosure of which the disclosing Participant believes in good faith would competitively harm the Participant, the disclosing Participant shall additionally mark on each page containing such information the words “HIGHLY SENSITIVE PROTECTED MATERIALS.” Except for the more limited list of persons who qualify as Reviewing Representatives for purposes of reviewing Highly Sensitive Protected Materials, such materials are subject to the same provisions in the Protective Order as Protected Materials.

The review of Highly Sensitive Protective Materials must be limited only to those Reviewing Representatives who are not Competitive Duty Personnel, as defined in Section 3(d). If the Protected Materials are restricted from disclosure to Competitive Duty Personnel, as defined below, the Applicant producing such information shall additionally mark each page containing such information with the words “HIGHLY SENSITIVE PROTECTED MATERIALS – NOT AVAILABLE TO COMPETITIVE DUTY PERSONNEL.”

(2) The term “Notes of Protected Materials” means memoranda, handwritten notes, or any other form of information (including electronic form) which copies or discloses materials described in Paragraph 3. Notes of Protected Materials are subject to the same restrictions provided in this Agreement for Protected Materials except as specifically provided in this order.

(3) Protected Materials shall not include (A) any information or document contained in the publicly-available files of the Commission, or of any other federal or state agency, or any federal or state court, unless the information or document has been determined to be protected by such agency or court, or (B) information that is public knowledge, or which becomes public knowledge, other than through disclosure in violation of this Agreement, or (C) any information or document labeled as “Non Internet Public” by a Party, in accordance with Paragraph 30 of FERC Order No. 630, FERC Stat. & Reg. ¶ 31,140. Protected Materials include any information or document contained in the files of the Commission that has been designated as Critical Energy Infrastructure Information.

(b) The term “Non-Disclosure Certificate” shall mean the certificate annexed hereto by which Reviewing Representatives who have been granted access to Protected Materials shall certify their understanding that such access to Protected Materials is provided pursuant to the terms and restrictions of this Agreement, and that they have read the Agreement and agree to be bound by it. Each Party shall provide a copy of the Non-Disclosure Certificate(s) executed by its Reviewing Representative(s) to the other Party prior to such Reviewing Representative(s) receiving access to any Protected Materials.

(c) The term “Reviewing Representative” shall mean:

(1) with respect to materials other than Highly Sensitive Protected Materials, a person who has signed a Non-Disclosure Certificate and who is:

- (i) an attorney retained by a Party for purposes of this proceeding;
- (ii) attorneys, paralegals, and other employees associated for purposes of this proceeding with an attorney described in Subparagraph (1);
- (iii) an expert or an employee of an expert retained by a Party for the purpose of advising, preparing for or testifying in this proceeding;
- (iv) a person designated as a Reviewing Representative by order of the Commission; or
- (v) employees or other representatives of a Party with significant responsibility for matters involving this proceeding.

(2) For purposes of reviewing Highly Sensitive Protected Materials covered by Paragraph 3(a)(1), who is:

- (i) A member or staff of any state or local utilities commission which is a Participant;
- (ii) An outside attorney who has made an appearance in this proceeding for a Participant;
- (iii) An attorney, paralegal, or other employee of the firm of the outside attorney described in Paragraph 3(c)(2)(ii) working with such outside attorney for purposes of this case;
- (iv) An outside expert or an employee of an outside expert retained by a Participant for the purpose of advising, preparing for or testifying in this proceeding who is working under the direction of an attorney described in Paragraph 3(c)(2)(ii) or 3(c)(2)(iii) and who is an unaffiliated expert (or employees thereof) not directly involved in, or having direct or supervisory responsibilities over, the purchase, sale, or marketing of electricity (including transmission service) at retail or wholesale, the negotiation or development of participation or cost sharing arrangements for transmission or generation facilities, or other activities or transactions of a type with respect to which the disclosure of Highly Sensitive Protected Materials may present an unreasonable risk of harm;
- (v) A specifically-identified individual that Applicants agree may act as a Reviewing Representative with respect to Highly Sensitive Materials; however, if, after a good faith effort, parties fail to agree on designating a specifically-named inside employee(s) of a non-governmental Participant as a Reviewing Representative for the review of specific Highly Sensitive Protected Material(s) or all Highly Sensitive Protected Material(s), a party may request that the Commission so-designate such a specifically-named inside employee(s) who is not Competitive Duty Personnel; or
- (vi) A person designated as a Reviewing Representative by order of the Commission specifically ruling on and indicating each such person by name.

(d) The term “Competitive Duty Personnel” shall mean a person that (i) is otherwise eligible to be a Reviewing Representative under Section 3(c), and (ii) is engaged in: the day-to-day marketing and trading of electric energy or related products, or direct oversight of the same; the marketing of energy or the buying or selling of generating assets; the provision of consulting services to any person whose duties include the foregoing; or, the direct supervision of any employee or employees whose duties include the foregoing.

4. Protected Materials shall be made available under the terms of this Agreement only to Parties and only through their Reviewing Representative(s) in the manner provided for in this Agreement.

5. Protected Materials shall remain available to a Party until the later of the date that an order terminating this proceeding becomes no longer subject to judicial review, or the date that any other Commission proceeding relating to the Protected Material is concluded and no longer subject to judicial review. If requested to do so in writing after that date, the Party shall, within fifteen days of such request, return the Protected Materials (excluding Notes of Protected Materials) to the Party that produced them, or shall destroy the materials, except that copies of filings, official transcripts and exhibits in this proceeding that contain Protected Materials, and Notes of Protected Material may be retained, if they are maintained in accordance with Paragraph 6, below. Within such time period the Party, if requested to do so, shall also submit to the producing Party an affidavit stating that, to the best of its knowledge, all Protected Materials and all Notes of Protected Materials have been returned or have been destroyed or will be maintained in accordance with Paragraph 6. To the extent Protected Materials are not returned or destroyed, they shall remain subject to this Agreement.

6. All Protected Materials shall be maintained by the Party in a secure place. Access to those materials shall be limited to those Reviewing Representatives specifically authorized pursuant to Paragraphs 8-9.

7. Protected Materials shall be treated as confidential by the Party and its Reviewing Representative(s) in accordance with the certificate executed pursuant to Paragraph 9. Protected Materials shall not be used except as necessary for the conduct of this proceeding, nor shall they be disclosed in any manner to any person except a Reviewing Representative who is engaged in the conduct of this proceeding and who needs to know the information in order to carry out that person’s responsibilities in this proceeding. Reviewing Representatives may make copies of Protected Materials, but such copies become Protected Materials. Reviewing Representatives may make notes of Protected Materials, which shall be treated as Notes of Protected Materials if they disclose the contents of Protected Materials.

8. (a) A Reviewing Representative may not use information contained in any Protected Materials obtained through this proceeding in any manner to give any Party or any competitor of any Party a commercial advantage.

(b) In the event that a Party wishes to designate as a Reviewing Representative a person not described in Paragraph 3(c) above, the Party shall seek agreement from the Party providing the Protected Materials. If an agreement is reached, that person shall be a Reviewing

Representative pursuant to Paragraphs 3(c) above with respect to those materials. If no agreement is reached, the Party shall submit the disputed designation to the Commission for resolution.

9. (a) A Reviewing Representative shall not be permitted to inspect, participate in discussions regarding, or otherwise be permitted access to Protected Materials pursuant to this Agreement unless that Reviewing Representative has first executed a Non-Disclosure Certificate; provided, that if an attorney qualified as a Reviewing Representative has executed such a certificate, the paralegals, secretarial and clerical personnel under the attorney's instruction, supervision or control need not do so. A copy of each Non-Disclosure Certificate shall be provided to counsel for the Party asserting confidentiality prior to disclosure of any Protected Material to that Reviewing Representative. Counsel for the Participant sponsoring the Reviewing Representative shall notify all parties at the time of distribution of the Non-Disclosure Certificate if the Reviewing Representative is Competitive Duty Personnel. In the event that a Reviewing Representative that is not Competitive Duty Personnel at the time the Non-Disclosure Certificate is executed or becomes Competitive Duty Personnel during the pendency of this proceeding, the counsel for the Participant sponsoring the Reviewing Representative shall notify all Participants of such designation and such Reviewing Representative's access to materials designated as "HIGHLY SENSITIVE PROTECTED MATERIALS – NOT AVAILABLE TO COMPETITIVE DUTY PERSONNEL" shall be revoked.

(b) Attorneys qualified as Reviewing Representatives are responsible for ensuring that persons under their supervision or control comply with this Agreement.

10. Subject to the limitations herein regarding Competitive Duty Personnel, a Reviewing Representative may disclose Protected Materials to any other Reviewing Representative as long as the disclosing Reviewing Representative and the receiving Reviewing Representative both have executed a Non-Disclosure Certificate. In the event that any Reviewing Representative to whom the Protected Materials are disclosed ceases to be engaged in these proceedings, or is employed or retained for a position whose occupant is not qualified to be a Reviewing Representative under Paragraph 3(c), access to Protected Materials by that person shall be terminated. Even if no longer engaged in this proceeding, every person who has executed a Non-Disclosure Certificate shall continue to be bound by the provisions of this Agreement and the certification.

11. Subject to Paragraph 17, the Commission shall resolve any disputes arising under this Agreement. Prior to presenting any dispute under this Agreement to the Commission, the Parties to the dispute shall use their best efforts to resolve it. If any Party contests the designation of materials as protected, it shall notify Party by specifying in writing the materials whose designation of which is contested. In any challenge to the designation of materials as protected, the burden of proof shall be on the challenging Party. If the Commission finds that the materials at issue are not entitled to protection, the procedures of Paragraph 17 shall apply. The procedures described above shall not apply to protected materials designated by Party as Critical Energy Infrastructure Information. Materials so designated shall remain protected and subject to the provisions of this Agreement, unless a Party requests and obtains a determination from the Commission's Critical Energy Infrastructure Information Coordinator that such materials need

not remain protected.

12. All copies of all documents reflecting Protected Materials, including the portion of any hearing testimony, exhibits, transcripts, briefs and other documents which refer to Protected Materials, shall be filed by appropriate means endorsed to the effect that they are protected pursuant to this Agreement. Such documents shall be marked “PROTECTED MATERIALS” or “HIGHLY SENSITIVE PROTECTED MATERIALS – NOT AVAILABLE TO COMPETITIVE DUTY PERSONNEL” and shall be filed under seal and served under seal upon the Commission and all Reviewing Representatives who are on the service list. Such documents containing Critical Energy Infrastructure Information shall be additionally marked “Contains Critical Energy Infrastructure Information - Do Not Release.” For anything filed under seal, redacted versions or, where an entire document is protected, a letter indicating such, will also be filed with the Commission and served on all parties on the service list. Counsel for the producing Party shall, upon request of the other Party, provide a list of Reviewing Representatives who are entitled to receive such material. Counsel shall take all reasonable precautions necessary to assure that Protected Materials are not distributed to unauthorized persons.

13. If any Party desires to include, utilize or refer to any Protected Materials or information derived therefrom in pleadings, testimony or exhibits during these proceedings in such a manner that might require disclosure of such material to persons other than Reviewing Representatives, such Party shall first notify both counsel for the Party whose information is proposed to be disclosed and the Commission of such desire, identifying with particularity each of the Protected Materials. Thereafter, use of such Protected Material will be governed by procedures determined by the Commission.

14. Nothing in this Agreement shall be construed as precluding any Party from objecting to the use of Protected Materials on any legal grounds.

15. Nothing in this Agreement shall preclude any Party from requesting the Commission or any other body having appropriate authority, to find that this Protective Agreement should not apply to all or any materials previously designated as Protected Materials pursuant to this Agreement. The Commission may alter or amend this Agreement as circumstances warrant at any time during the course of this proceeding.

16. The Parties may amend this Agreement only by mutual consent and in writing; provided, however, that a Party has the right to seek changes to this Agreement, as appropriate, from the Commission.

17. If the Commission finds at any time in the course of this proceeding that all or part of the Protected Materials need not be protected, those materials shall, nevertheless, be subject to the protection afforded by this Protective Agreement for three (3) business days from the date of the Commission’s decision, and if the Party seeking protection files an interlocutory appeal or requests that the issue be certified to the Commission, for an additional seven (7) business days. No Party waives its rights to seek additional administrative or judicial remedies after the Commission’s decision respecting Protected Materials or Reviewing Representatives, or the Commission’s denial of any appeal thereof. The provisions of 18 CFR §§ 388.112 and 388.113 shall apply to any requests for Protected materials in the files of the Commission under the

Freedom of Information Act. (5 U.S.C. § 552).

18. Nothing in this Agreement shall be deemed to preclude either Party from independently seeking through discovery, in any other administrative or judicial proceeding, information or materials produced in this proceeding under this Agreement.

19. Neither Party waives the right to pursue any other legal or equitable remedies that may be available in the event of actual or anticipated disclosure of Protected Materials.

20. The contents of Protected Materials or any other form of information that copies or discloses Protected Materials shall not be disclosed to anyone other than in accordance with this Agreement and shall be used only in connection with this proceeding. Any violation of this Agreement and of any Non-Disclosure Certificate executed hereunder shall constitute a violation of an order of the Commission.

IN WITNESS WHEREOF, the Parties each have caused this Protective Agreement to be signed by their respective duly authorized representatives as of the date first set forth above.

By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____
Representing: Applicant	Representing: Intervenor

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Nevada Power Co.	)	Docket No. ER17-_____-000
Sierra Pacific Power Co.	)	Docket No. ER17-_____-000
PacifiCorp	)	Docket No. ER17-_____-000

NON-DISCLOSURE CERTIFICATE

I hereby certify my understanding that access to Protected Materials is provided to me pursuant to the terms and restrictions of the Protective Agreement dated _____, 20__ by and between [Applicant] and [Intervenor] concerning materials in Federal Energy Regulatory Commission Docket No. _____, that I have been given a copy of and have read the Protective Agreement, and that I agree to be bound by it. I understand that the contents of the Protected Materials, any notes or other memoranda, or any other form of information that copies or discloses Protected Materials shall not be disclosed to anyone other than in accordance with that Protective Agreement. I acknowledge that a violation of this certificate constitutes a violation of an order of the Federal Energy Regulatory Commission.

___ I attest that I am “Competitive Duty Personnel” as defined in the Protective Agreement and agree that I may not view or otherwise receive Protected Materials in this proceeding.

___ I attest that I am not “Competitive Duty Personnel” as defined in the Protective Agreement.

By: _____

Name: _____

Title: _____

Representing: _____

Contains Request for Privileged Treatment

August 31, 2017

The Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

RE: *Nevada Power Co.*
Sierra Pacific Power Co.
PacifiCorp

Docket No. ER17-____-000
Docket No. ER17-____-000
Docket No. ER17-____-000

**Amendments to Market-Based Rate Tariffs Regarding Market-Based Rate
Authority for the Energy Imbalance Market**

WORKPAPER SUBMITTAL

Dear Secretary Bose:

Pursuant to Section 205 of the Federal Power Act,¹ Part 35 of the regulations of the Federal Energy Regulatory Commission ("Commission"),² Nevada Power Company and Sierra Pacific Power Company (collectively, the "NV Energy Companies") and PacifiCorp (together with the NV Energy Companies, the "BHE EIM Participants") today are submitting to the Commission under separate cover a filing containing certain revisions to their respective market-based rate tariffs to enable their participation in the Energy Imbalance Market administered by the California Independent System Operator using market-based rates.

Enclosed please find CD-ROMs containing the workpapers supporting the analyses of Dr. David Hunger and Mr. Edo Macan of Charles River Associates. Public and confidential versions of the workpapers are enclosed. The BHE EIM Participants respectfully request privileged treatment, in accordance with 18 C.F.R. § 388.112 (2017), for the confidential workpapers supporting the CRA Analysis. These workpapers contain "[t]rade secrets and commercial or financial information obtained from a person [that are] privileged or confidential" of the BHE EIM Participants in the form of sensitive generation and load data.³ The information contained in these documents is thus commercially sensitive and not publicly available.

¹ 16 U.S.C. § 824d (2012).

² 18 C.F.R. Part 35 (2017).

³ 18 C.F.R. § 388.107(d) (2017).

TROUTMAN
SANDERS

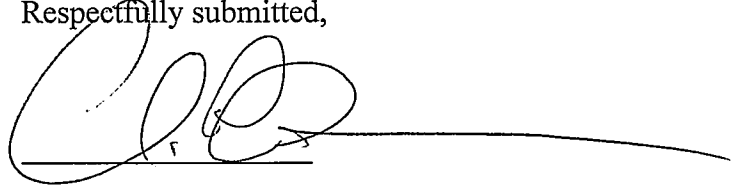
The Honorable Kimberly D. Bose
August 31, 2017
Page 2

Accordingly, good cause exists for the Commission to grant this request for privileged treatment of this information.

As required by 18 C.F.R. § 388.112(b), the BHE EIM Participants included with the e-tariff filing a proposed protective agreement based generally on the Commission's model protective order. The protective agreement adds a commonly-used restriction on the availability of "Highly Sensitive Protected Materials" to personnel deemed "Competitive Duty Personnel." The confidential workpapers enclosed herewith are designated Highly Sensitive Protective Materials under the protective agreement.

This filing (without CD-ROM) will be included in the service of the underlying tariff amendment filing. Please contact the undersigned with any questions about this submittal.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'C.R. Jones', is written over a horizontal line.

Christopher R. Jones
TROUTMAN SANDERS LLP

Counsel for BHE EIM Participants